Neutral Citation Number: [2019] EWHC 2294 (QB)

Case No: HQ17CO1831

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 27/08/2019

Before :

His Honour Judge Graham Wood QC sitting as a Judge of the High Court

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Between :

HOLLIE DOUSE	**Claimant**
(a child suing by her father and litigation friend Chis Douse)	
- and –	
WESTERN SUSSEX HOSPITALS NHS FOUNDATION TRUST	**Defendant**

Ben Collins QC (instructed by **Coffin Mew LLP Solicitors**) for the **Claimant**

Benjamin Browne QC (instructed by **Capsticks Solicitors**) for the **Defendant**

Hearing dates: 15th to 18th July 2019

APPROVED JUDGMENT

HH Judge Wood QC :

Introduction

1. The Claimant, Hollie Douse, suffered a serious hypoxic ischaemic injury during the course of her birth by caesarean section on 28th October 2012 which has led to severe and profound disability in relation to all aspects of functioning. It is not in dispute that her injury was caused by the operative procedure, which lasted approximately 16 minutes from the incision to the uterus to the removal of the baby, and the issue for this court in the liability only trial has been whether or not the obstetric registrar, Dr Raykova, was negligent in failing to deliver Hollie within a significantly shorter period of time, and in particular within five minutes.

2. That issue has been narrowed by the concession made by the Defendant's solicitors in a letter dated 5th June 2019, in which it is accepted that if it had been possible to deliver Hollie within 4 to 5 minutes of opening of the uterus without traumatic injury, she would have sustained no impairment, or have suffered minor and probably non-disabling impairment.

3. I heard evidence and argument over the course of four days between 15th and 18th July and reserved my judgment to enable a detailed consideration of the issue, and the material which had been referred to. There is no doubt that this tragic case has impacted hugely on all involved, both Hollie's parents and the hospital staff.

Background and review of medical records

4. Whilst there has been no significant factual dispute between the parties, and the lay evidence is largely uncontested, it is nevertheless necessary to consider the background to Hollie's delivery and to identify some of the relevant entries in the medical records. In this respect I am greatly assisted by the transcription summaries provided in both the expert evidence and the skeleton argument of counsel, Mr Collins QC, although as I indicated during the course of the hearing, handwritten notes are refreshingly legible and well set out.

5. The Claimant's mother, Vanya Jackson, was monitored closely in the latter stages of the pregnancy, which was her first, because of gestational diabetes, and presenting hypertension. She also had a high BMI. Following treatment with labetalol, a measure of control had been achieved with the high blood pressure, the diabetes was managed with diet, and Dr Stone, who was the consultant in charge of her care, had been hopeful of spontaneous labour to reduce any delivery complications. It is unnecessary to consider the pregnancy history or progress in any further detail because it does not impinge upon the narrow compass of the issue to be resolved.

6. Ms Jackson was admitted on 26th October 2012 because of recurring and returning high blood pressure. A decision was made that labour should be induced because of the hypertension concerns. To lower her blood pressure, in addition to labetalol, Ms Jackson was also administered nifedipine. The induction of labour process was commenced with the insertion of a propess pessary vaginally.

7. In the early afternoon of 27th October Ms Jackson reported that her waters had broken and when this was confirmed on vaginal examination, the pessary was removed, and following the application of an epidural at 16.00, syntocinon was commenced to cause uterine contractions. The records suggest this would have been at 18.40. A vaginal examination forty minutes earlier had shown that the cervix was thick but allowed the admission of a fingertip, and the baby's head was shown to be 3 cm above the ischial spines, in other words still relatively high within the uterus and not yet engaged in the pelvic inlet.

8. Over the following few hours the mother's condition was closely monitored in terms of blood pressure and the progress of labour, as was the CTG to measure the foetal heartbeat and the health of the baby. There were concerns towards late evening at the absence of any acceleration on the CTG trace, usually a sign that labour was progressing. At 23.00 a vaginal examination indicated that the cervix was now 9 cm dilated, with the head descended to the ischial spines, demonstrating that significant dilatation had occurred over a four hour period approximately. Ms Jackson was seen by Dr Raykova at 23.20, when a foetal blood sample was directed. This was to measure the level of acid in the foetal blood to see how well the baby was coping, in the light of the abnormal traces, and whether urgent delivery was required. Shortly after 23.30 the result of the blood test was available and this showed a pH of 7.19 which was abnormal. Dr Raykova contacted Dr Stone, the on-call consultant who was at home, and a decision was made that the baby should be delivered by caesarean section because of foetal distress. Dr Stone recommended that this be under spinal anaesthetic (epidural), rather than general anaesthetic. Dr Raykova was happy to carry out the procedure without assistance from Dr Stone, having performed caesarean sections on a number of previous occasions.

9. The penultimate vaginal examination at 2300, before the foetal blood sample was taken, which I have referred to briefly above, is relevant, insofar as it informed the process that followed thereafter and has been the subject of some discussion in the trial. It appears at page 172 in Volume 1 of the medical records bundle in tabular form. It showed the foetus to be at the level of the spines with the head presenting (as depicted in a diagram) in what is described as an occipito-posterior (OP) position, but towards the right. This means that the posterior fontanelle was to the back of the uterus, whilst the anterior fontanelle presented at the higher point, that is to the front of the uterus. The head was one fifth palpable, and the uterus was described as soft in consistency, thin in length, and with 9 cm dilatation. There was a further 1 cm of dilatation required before vaginal delivery could be achieved. Significantly, at this stage, there was no caput or moulding, which would be signs that the

baby's head was suffering trauma in labour. I shall return to their importance later in this judgment.

10. The final vaginal examination was carried out by Dr Raykova at 23.25. It is recorded at page 173 in the medical notes just under two hours after the caesarean section and completed by the registrar retrospectively. It was not in tabular form, but described the cervix as being 9 cm dilated, the head being at the level of the spines, and one fifth palpable, its position being right OP and deflexed, that is with chin back and not forward, with no caput and a moderate degree of moulding (recorded as moulding +). Thus there had been no further dilatation of the cervix over the previous thirty minutes.

11. After a decision had been made to proceed to caesarean section, Dr Raykova discussed the plan, as agreed with the consultant Dr Stone over the telephone, with Ms Jackson and her partner, and the necessary consent form was completed. The mother was now ready for surgery, and the foetal scalp electrode was removed.

12. The notes of the surgical procedure were written in retrospect. [1] Counsel has extracted and transcribed the relevant sections which I set out below for ease of reference. They were written by the midwife Ms Henry approximately one and a half hours after the surgery, and it is not suggested that the timings are inaccurate:

23.54 *Prepared for surgery*

23.55 *Start of surgery*

23.57 *Knife to uterus*

28/10[2]

00.00 *Difficulty in delivery of baby. Gentle pressure inserted per vagina onto baby's head to aid delivery of baby by V. McLaren-Oliver However unsuccessful – [therefore] SES called @ 0059 and on her way. Bed tilt – head down + facial O2 given to mum.*

00.04 *Dr Raykova continues to try to deliver baby + Now m/w J. Lown applying gentle pressure VE to aid delivery. Still unsuccessful. Terbutalin 0.25 mg given subcut by Dr. Zahra (Anaesthetist).*

00.05 *Neonatal emergency called. I suggested Paed Reg to be called for delivery @ 23.58 but busy [with] another emergency [therefore]*

[1] 175 in the medical records bundle.

[2] The notes straddle midnight but maintain BST times despite the clocks going back by one hour

Dr. Linney (Paed consultant) called instead.
Dr. Mike Linney arrived in theatre @ 00.00.

00.08 *FH heard via sterile glove + sonicaid onto baby's back in utero – 30-40 bpm.*

00.10 *Effort to deliver baby continued intermittently.*

00.11 *Dr. Stone now present in theatre and attended the delivery immediately. Attempted to listen to FH again as before – No FH heard.*

00.13 *Delivery of a female infant by Miss Stone in poor condition. Taken to resuscitaire immediately where Dr. Linney, V. McLaren-Oliver (RM), Paed SHO Dr. and Neonatal Nurse Maria Elliott await for resuscitation. M/w N. McGowan also present in theatre for scribing. Please* [sic] *attached Neonatal Resuscitation proforma for details.*

13. The notes reveal that Dr Raykova was unable to deliver the baby despite trying a number of different methods including using the midwife to apply pressure through the vagina, tilting the bed to allow some gravitational pull, administration of terbutaline to relax the uterus and to reduce contractions. I will address all these measures later in this judgment because they are central to the question of liability. It is also noted that difficulties were identified within three minutes (midnight) and that according to the notes it was midwife Henry who was responsible for calling for the paediatric/neonatal team. Her notes do not indicate the circumstances in which Dr Stone, as the consultant on call, was summoned from home to assist, but note her arrival at 11 minutes past midnight, that is 14 minutes after the uterus was incised, and five minutes after the administration of the terbutaline. It took Dr Stone two minutes to achieve the delivery of the baby, but because of the urgency she was not fully scrubbed up, wearing only gloves. The Claimant was in a very poor condition indeed and taken away for resuscitation, and ultimately the neonatal unit.

14. Midwife Henry's notes do not describe two further measures taken by Dr Raykova, which include a further cut to the uterus transversely (inverted T) to allow for greater access, and the use of a stool to gain some height. However, Dr Raykova provided two summary notes in the records, the first, shortly after the procedure, (time is not stated).

Head deeply engaged into pelvis. Deflexed ROP.
Few attempts to flex + disimpact the head →
no success. Asked m/w in charge Valerie to push head PV. Few attempts to deliver unsuccessfully.
Asked SS to be called + come to theatre
Requested: *(1) Head down by anaesthetist*
(2) Terbutaline 0.5 mg s.c.
Again attempts to deliver → no success

Dr. Stone in theatre. Took over → deliver
of baby → Paeds.

15. The second note is slightly more detailed, and was provided retrospectively approximately 24 hours later.

Added on 28/10/12 23:00h
During the attempts to disimpact the head, I asked
m/w in charge Valerie McLaren-Oliver to push PV. After
few unsuccessful attempts from my side + m/w McLaren, I
stopped for few seconds until m/w Jenny Lown swapped [with]
m/w McLaren. Me + m/w Lown attempted to deliver trying
above manoeuvres . I also asked for a stool to step on and tried
to disimpact head, again unsuccessfully. Stool removed
[with] attempts discontinued. Then I asked for "head down"
From anaesthetist + s.c. Terbutaline 0.5 mg to relax
Uterus + gravitation to help me. Again unsuccessful attempts.
Then I performed inverted T and attempted to deliver,
again without success. Then Dr. Stone came in and took over.
In summary, I feel that the pelvis was narrow,
the position (deflexed ROP) was unfavourable and despite
of using gravitation + relaxing the uterus I was not able to
deliver the baby.

16. Dr Stone provided a note of the procedure, the first seemingly shortly afterwards with the second note added when she was on her ward rounds the following morning.

Called in urgently at 00:05 (approx.) b/c difficulty delivering
baby at C/S unexpectedly.
Aware of case – called by reg 23:40 requesting to do
cat 1 C/S for pathological CTG & FBS 7.19 in 1st stage (9cm, OP)
agreed that they proceed immediately to C/S ideally under SA.

On arrival in theatre → foetal head still deeply impacted with v little room for manoeuvre, deflexed
OP → disengaged head & delivered infant to paediatric
team relatively quickly – By moving head slightly sideways to flex head up & then deliver
then scrubbed & took over the remainder of C/S.
(NB acc to mw who had pushed on head PV – station was spines)

- *closed uterus in 2 layers*
- *haemostasis √*
- *IV syntocinon infusion √*
- *[???] NAD*
- *vicryl to sheath*
- *interrupted [???] sutures*
- *monocryl to skin*

(NB Added notes on 28/10 – retrospect)
Imp – narrow pelvic inlet with deflexed OP position at spines but inability to deliver easily b/c v. tight fit hence v. little space to flex head easily.

17. Because this was classified as a severe incident in which a baby had been delivered in a very poor condition in a surgical procedure carried out at the Defendant's hospital, a root cause analysis investigation report was commissioned. This has not been referred to in any detail, and it not suggested that it has any particular evidential value. Dr Raykova herself prepared what is known as a reflective practice statement, which was customary, and insofar as was of the subject of questioning by counsel during this case I provide a brief extract.[3]

> What would you do differently next time?
>
> I will pay significant attention on the record of CTG's contractions and will assess the manually by myself not only relaying on the midwives (seek) assessment especially in the cases of rapid progress and pathological seek he.
>
> During delivery I will try to flex the head (which was deflexed ROP) and bring the head up through releasing the suction pressure.

Evidence

18. The court heard evidence from five lay witnesses, Mr Douse on behalf of the Claimant, Dr Raykova, Dr Stone, and the two midwives involved in the procedure. I do not intend to rehearse the evidence in full, but instead highlight several aspects which are relevant to the factual background and which touch upon the issues which I have to decide.

19. Mr Douse had been present throughout the labour and attended at theatre scrubbed up for the caesarean section. He was standing near to his partner's head. The midwife told him that in four or five minutes he would be a daddy, and initially the theatre staff were relaxed. However, he became aware of increasing concern, and described a level of panic as the minutes went by. Specifically, at one stage he recalled one of the anaesthetists asking "*what is she doing*", and one of the midwives said to Dr Raykova "*you have to stop*" and "*you are using too much pressure*" and "*I can feel her brain*". He was aware that someone had telephoned for Dr Stone, and after she arrived the delivery was effected quickly.

[3] Core Bundle page 515

20. The Claimant's mother Vanya Jackson did not give live evidence, but her statement was accepted. In relation to the procedure, she has little specific recollection and much of what she recounts was provided to her by Mr Douse.

21. Dr Raykova was the principal witness for the Defendant. It was her performance of the caesarean section which lies at the heart of the liability issue, and therefore her testimony requires some scrutiny. In her statement, Dr Raykova outlines the history of the labour, and describes her decision on review of the CTG at 23.22 to require a foetal blood sample. Contractions had been four in 10 minutes but the CTG showed atypical decelerations. She states that on receipt of the blood sample it was discussed with Dr Stone over the telephone, and the decision was made to proceed to caesarean section. Dr Raykova describes having carried out hundreds of caesarean sections including those after failed instrumental deliveries at full dilatation.

22. In relation to the procedure itself, which she recalled very well, in her statement the doctor described immediately encountering an extremely tight pelvis with the baby's head deeply wedged in a deflexed ROP. She was unable to "release the suction" created between the baby's head and the uterine wall, in order to flex the head, because there was insufficient space for manoeuvre. Because of the difficulties, she states that she asked for Dr Stone to be called, relying on the note which suggested this was after two minutes and at 0059.[4]

23. Dr Raykova deals with the various measures which she took in her attempts to deliver the baby including gentle pressure through the vagina applied by the midwives, the use of a stool to gain more height, tilting the bed with the assistance of the anaesthetist to achieve gravity, performing an inverted T cut to gain more access to the uterus, and the administration of terbutaline to relax the uterus, none of which were successful. She described the experience as extremely stressful and upsetting, but the atmosphere in the room was calm and professional despite the tension. When Dr Stone arrived, she delivered within two minutes.

24. In her evidence in chief, Dr Raykova provided a further explanation of the difficulty, stating that she had been unable to advance her hand further to the side of the head to get a hold, thereby decreasing the "suction" and flexing the head. She believed there to be an anatomical abnormality. The contractions had been continuing until the excision of the uterus.

25. Understandably she was subject to significant cross-examination in relation to the way she attempted delivery, what she had encountered on opening the uterus, and the techniques which were used. Specifically, she was referred to page 172 in the records which

[4] Corrected to 11.59 because of BST

provided a diagram depicting the baby's head in a right occipito-posterior position and a further finding on the vaginal examination at 23.25 of the head being deflexed, that is flexed backwards, but Dr Raykova believed that the presentation on entering the uterus was of the head being more deflexed than shown and far tighter than the vaginal examination had revealed. Whilst she had described an anatomical abnormality in her statement, the doctor accepted that in her notes she had not referred to any unusual anatomy, although in the retrospective observation, she had made reference to the pelvis being "narrow". In fact, she had never come across a pelvis as narrow as this before. Dr Raykova accepted that she had not made any reference to the narrowness of the pelvis in her statement for the root cause investigation.

26. She did not know whether the head had passed the ischial spines, but accepted that the notes indicated that the head was level with the spines. Her description that the head was "deeply engaged" was recorded in the earlier note.

27. In respect of the techniques which she had adopted, she described making the T-shaped incision to give herself more space for her hand, using her right hand, rather than both, and her attempts at flexing the head were focused on the right-hand side of the baby's head (that is to the left looking from the mother's legs) and therefore when the midwife was attempting to push the baby through the vagina and fingers touched, it would have been at that side. Dr Raykova was asked about her reflective statement[5] and what she meant by "*releasing the suction pressure*" and she told the court that opening her fingers, or splaying them would assist in any such similar circumstances in the future, in allowing easier access to the side of the baby's head.

28. As far as the atmosphere was concerned, Dr Raykova accepted that she became very upset as the minutes went by, because of the potential damage to the baby, and she was aware that the neonatal team was standing by, because she could see them out of the corner of her eye. If the anaesthetist had said "*what is she doing*", this would not have implied any puzzlement or belief that she was acting strangely, because the anaesthetist would be behind the curtain, and unaware of the process. In other words, it was perfectly normal. There was a discussion with the team which she was managing, because she was telling them what she was doing, and at one stage she may have called for suggestions.

29. Dr Raykova did recall someone saying "*you have to stop*", and "*you are using too much pressure*", but there was no reference to the brain. This would be perfectly normal because it was necessary to pull the baby to release the impaction.

[5] Core Bundle page 515

30. In relation to the summoning of Dr Stone, Dr Raykova had no recollection to how this was achieved, but is likely to have said something like "I need a consultant now".

31. Counsel asked the doctor several questions about her physical health, and the amount of time which she had taken off work to deal with it, particularly because her registrar training had been prolonged. She explained that whilst she had started training in 2007 a number of extensions had been required to deal with surgical problems affecting her knee, ankle and back. She accepted that the work of an obstetric registrar required physical effort and that she had returned following previous surgery shortly before this procedure.

32. Two of the midwives who participated in the caesarean section were called by the Defendant. The first, Ms McLaren Oliver, was principally involved in applying pressure on the baby's head through the vagina. In this process she recalls being asked to apply more pressure, but neither said nor was told that too much was being applied, or that baby's brain could be felt. She was aware of the baby's skull bones moving, that is moulding, when she was pushing, but she could only access the head by her fingertips.

33. Although the midwife's statement is equivocal on this, Ms McLaren Oliver does not believe that she was responsible for making a decision to call Dr Stone, and has a recollection it was Dr Raykova who made the request. She was questioned on the atmosphere in the theatre, and in particular whether there was any panic. Ms McLaren Oliver did not accept that this was the case, although an emergency situation was developing. She did recall that Dr Raykova was recapping on everything that she was doing, but this was essentially checking whether everything had been done. She had been responsible for arranging for the paediatric team to attend, but cannot recall whether this created any panic or distress for Dr Raykova when they arrived.

34. The second midwife, Ms Henry, was responsible for providing the most contemporaneous surgical note. A significant part of her statement is dedicated to her role in administering and switching off the syntocinon and whether or not there had been any hyperstimulation of the uterus. This has not been an issue in the case, and no other evidence has been directed to it. She described Dr Raykova as remaining extremely calm, methodical and professional throughout the procedure, although she could see from her face that she was "stressed". When questioned about this by counsel, she denied that there had been any panic, but thought that Dr Raykova had become more upset whilst waiting for Dr Stone to come and later on in the procedure. They all knew that any delay would cause a serious problem, and the team were talking over the procedures but not providing any suggestions.

35. Both Ms McLaren Oliver, and Ms Henry expressed the view that Dr Raykova did everything possible to deliver the baby. However, they played no role in the surgical procedure itself, which was the sole responsibility of the obstetric registrar.

36. Dr Sophia Stone, the consultant obstetrician, provided two statements, the second a short corrective statement. She dealt extensively with the history of the labour leading up to the decision to proceed to caesarean section, although in the period immediately prior to the surgery she had been on call, and communicating over the telephone with the registrar. In paragraph 25 of her statement she provides an assessment of the situation which she believed was faced by Dr Raykova. Whilst this is drawn from the records and the accounts which she has subsequently and retrospectively considered, unless there was any significant change between 23.57 when the uterus was incised, and a 00.11 when she attended (which I shall consider in more detail later in this judgment under "discussion") it is reasonable to assume that it largely replicated the situation with which she was presented. The foetal head is described as being impacted in the pelvis and deflexed in a ROP position, with the baby facing upwards and with the neck hyperextended, where it would be extremely difficult to effect a delivery without bringing chin down and bending the head. The operator would be required to move the head into a position where it could be flexed. It is necessary to work against the significant suction effect pulling the foetal head downwards.

37. In respect of her own involvement, Dr Stone gave a detailed description of how she struggled at first because she was unable to slip her right hand between the anterior wall of the uterus and the baby's head, and it was necessary to "scout around" for a space behind the baby's head to obtain some movement sideways and thus create a degree of flexion. In evidence to the court Dr Stone elaborated slightly on this, with the use of the visual aid which had been supplied, a skeletal pelvis and a doll, demonstrating that she applied force to both sides of the baby's forehead, not simply working on the right-hand side to create a degree of rotation.

38. Dr Stone believed that Miss Jackson had a very narrow pelvic inlet making delivery particularly difficult, and on this occasion, it took her about two minutes. Her hand and arm were aching afterwards, she was "*sweating, shaking and absolutely drained*" and she expected that in attempting delivery, Dr Raykova would have been similarly affected.

39. In the course of examination-in-chief Dr Stone provided more detail, describing the uterine muscle as being clamped down over the baby, and both the bony tightness and the contracted uterus made access to the baby in a deflexed position particularly difficult. Normally the procedure would only have taken ten seconds or so but on this occasion it was like arm wrestling, because of the toughness of the uterine muscle. She believed that she was attending about seven minutes after the terbutaline had been administered. It would take six minutes for any effect to begin if administered subcutaneously.

40. Under cross-examination, Dr Stone accepted that there was no anatomical abnormality, and she did not use the word "abnormal" in the notes. It was more properly described as a tight fit.

41. In relation to the health problems which Dr Raykova might have had, Dr Stone pointed out that she had been her educational supervisor and was fully aware of these. She had been managed by the occupational health department, who had provided a return to work programme, and Dr Raykova had been back on labour ward duties from about mid-September. She had identified no physical disability on the part of Dr Raykova and had seen her performing independent sections during this period.

Expert witnesses and research material

42. The expert evidence came from two consultant obstetricians, Mr Andrew Farkas on behalf of the Claimant, and Mr Derek Tuffnell for the Defendant. Both were considerably experienced in their field and of similar seniority, although Mr Tuffnell appears to have had more teaching and research roles. It is clear that both experts have had substantial hands-on experience in relation to both elective and emergency caesarean sections. In fact, as discussed in exchanges with counsel during the trial, though there is a significant disagreement between them as to whether or not Dr Raykova's inability to deliver the baby within a sufficiently short period so as to prevent any hypoxic compromise amounted to a breach of duty, neither in their extensive experience had failed to deliver on a caesarean within five minutes, and there is a substantial degree of common ground otherwise. It seems to me that the major area in which they part company is whether in the presenting clinical circumstances this was an exceptionally difficult delivery in which it might have been expected that an experienced and competent obstetric registrar would struggle. The presenting clinical circumstances will depend, to a significant extent, on the factual evidence, and the findings which I make.

43. Before highlighting the important features of their evidence, I make one or two observations in relation to the published research papers which were provided by Mr Tuffnell and which are included at the rear of the core bundle. I remarked during the course of the hearing, when a short adjournment was necessary to enable Mr Farkas to consider some of the papers, that it is undesirable for good case and trial management that medical literature should only emerge in the few weeks before the trial. I was assured by Mr Browne QC, for the Defendant, that the material was provided by Mr Tuffnell to counter what appeared to be the stance taken by the Claimant's expert at the joint meeting in February of this year that complications in caesarean section leading to delay in delivery and consequential hypoxic insult were virtually unheard of.

44. It is not disputed that the import of the research papers establishes that a deeply impacted foetal head, whilst an obstetric rarity, nevertheless represents a significant difficulty for delivery in which less conventional methods may be necessary, such as pushing/pulling (reverse breech extraction) and where training should be improved for obstetricians. None of the papers arise from UK research, and are based on case studies from individual hospitals in Switzerland, Iran, Israel and the US. They do not deal specifically with delay, or the length of

time in which it is expected such procedures should be carried out so as to avoid hypoxic injury. In fact, it is not possible to glean from any of them how long it took for delivery to be affected in any individual case, and much of the focus is on other deleterious consequences, including injury to the mother and direct foetal trauma. Further, most of the studies refer to caesarean section delivery at full dilatation, which was unlikely to have been the case for this delivery.

45. It is regrettable that there has not been any case study dealing with the specific consequence which is said to have arisen in the present case, namely how frequently hypoxic injury might result from a reportedly very difficult delivery of a deeply impacted foetus, the level of training or seniority which should be attained by the surgeon by reference to any reported incidents, and the time taken from first incision to delivery generally. Insofar as it might be a recognised complication for delivery where there is a narrow pelvis or an impacted head, as appears to be the implication of the evidence of Dr Stone (although I must be careful not to treat her as providing expert opinion) such material would be highly germane. Absent any medical research, it would be difficult to come to a conclusion that hypoxic injury is a recognised or even acceptable risk occurring frequently, although it is to be observed that is not a stance taken by the Defendant through its expert Mr Tuffnell.

46. The opinion of Mr Farkas, for the Claimant, can be summarised in the following way. The presenting clinical features, namely that the foetal head was in a deflexed and OP position to the right, with no caput and only a minor degree of moulding, was unlikely to have given rise to such impaction as to make delivery within five minutes from incision not possible. He relies upon the position of the foetus as recorded in the notes, being level with the ischial spines, and the fact that although the cervix had been 9 cm dilated, this had remained the position, after a rapid progress of labour. Whilst not something which amounts to a breach of duty, Mr Farkas believes that a vaginal examination immediately before the caesarean procedure might have identified whether there had been further dilatation,[6] which would have supported a further attempt at vaginal delivery.

47. He accepts the various measures adopted by Dr Raykova as being appropriate to assist in the delivery, but he does not believe that they are likely to have explained why it only took two minutes for Dr Stone, upon her arrival, to deliver the Claimant. The terbutaline, he believes, is likely to have operated at the upper end of the uterus, and not the lower end, he did not consider that it would have had any significant assistive effect for Dr Stone, even if it had begun to operate on the muscles.

48. Mr Farkas did not agree that there was any anatomical abnormality in this case, although he was prepared to accept that there might have been a tight pelvic fit. He qualified that conclusion by pointing out that a tight pelvis is normally encountered with a failure to

[6] The last, by Dr Raykova, was at 23.25

progress, which commonly leads to caesarean section, rather than foetal distress, which is what arose here. In short, it is his opinion that no reasonably competent obstetrician could or should have failed to deliver a baby by caesarean section in the prevailing clinical circumstances.

49. In his written report, Mr Farkas opined that there was no reason to suspect impaction of the foetal head, although on this point he was subject to considerable cross-examination by Mr Browne QC for the Defendant. He accepted that the medical notes, and the evidence of both the registrar and Dr Stone indicated that there was impaction of the foetal head, albeit not below the ischial spines, and for this reason he qualified his opinion, retreating from the position expressed in his report. Mr Farkas acknowledged a degree of impaction, but would not be prepared to describe it as deep, if this meant deep within the pelvis. In accepting a relatively tight fit for the pelvic inlet, he did not accept that it was such that could not be overcome.

50. Mr Farkas maintained his position in the joint report. In particular, he observed that in thirty years as an obstetrician he had never encountered anything approaching the time taken to deliver baby Hollie. He accepted that the measures undertaken by Dr Raykova were reasonable, albeit extremely unusual, but thought it unlikely that those measures had facilitated delivery by Dr Stone.

51. On behalf of the Defendant, Mr Tuffnell believed that it was unreasonable to assume that birth of a baby by caesarean section can always be achieved within four minutes. To suggest that a failure to do this amount to a breach of duty was incredibly harsh, although he accepted that on all occasions he had been the primary surgeon he had achieved delivery within five minutes. In circumstances, particularly late in labour, where the baby's head is in an occipito-posterior position, as here, and the head becomes flexed, it can become very tightly wedged in the pelvis.

52. This is the difficulty with which the registrar was faced, and all the steps that she took, as well as the times when she took them were entirely reasonable in furthering her efforts to achieve delivery. Dr Raykova was simply unable to get underneath the head to flex it and thus leave the baby in a position for delivery. He did not believe that the registrar could reasonably have been expected to try other techniques, and that her approach was in accordance with a competent body of obstetric registrars, because the risk is one which arises where there is a caesarean section in late labour.

53. It is significant, in the opinion of Mr Tuffnell, that Dr Stone was able to deliver the baby within two minutes, not because it suggests any lack of competence on the part of Dr Raykova, but because of the measures taken by the registrar to make ultimate delivery easier.

He likens this to the "jam jar" effect where a person has been trying for some time to release the lid on a jam jar, whilst the next person can release it with one twist.

54. In relation to the pelvic, or any anatomical abnormality, he was unable to say whether this was the case, although he did accept that whilst narrow, the pelvis was probably within the normal range, because tightness is often affected by the position of the head. It is not unusual, said Mr Tuffnell, to find an occipito-posterior position perhaps in 10 to 15% of first labours, even with a head in a deflexed position. As far as techniques were concerned, Mr Tuffnell accepted, when questioned about how Dr Stone achieved the delivery, that whilst it would be appropriate to move the head sideways by getting fingers behind the head, this was a very unusual case were it had been very difficult to get the baby out because of tightness around the foetal head. Whilst accepting the possibility of a lack of skill on the part of the registrar, he thought that this was unlikely, because both were reporting difficulties of tightness.

55. Mr Tuffnell maintained his position in the joint report, expressing the view that the time taken to deliver the baby was reasonable in the light of the position of the baby's head, and in this respect it is assumed that he is referring to the overall time of 16 minutes as he believes that Dr Raykova's efforts would have facilitated delivery for Dr Stone.

The issue and any legal considerations

56. This is not a case in which any complex question of law arises. Causation, which can sometimes be problematic, has been agreed in relation to the first five minutes, as I have indicated. In other words, it is accepted that if this court finds that a failure to deliver within five minutes amounts to a breach of duty, that is sufficient to have caused the catastrophic injury suffered by baby Hollie.

57. Breach of duty falls to be considered in the context of the well-established test for clinical negligence cases, namely is there a responsible body of obstetric surgeons who would not have been able to deliver the Claimant within the identified five minutes, in the clinical circumstances which prevailed in this case?

58. The question of the standard of care is properly addressed in the submissions of counsel, to which I now turn.

The respective submissions

Claimant

59. Mr Ben Collins QC on behalf of the Claimant referred the court to the standard of care to be applied; this did not depend upon the experience of the clinician, but the nature of the task being performed. He relied upon the observations of Jackson LJ in the recent case of **FB v Princess Alexandra Hospital NHS Trust [2017] EWCA Civ 334**, in which he held that the hospital doctor should be judged by the standard of skill and care appropriate to the post which he or she was fulfilling, and where a doctor was "acting up", that standard should be related to the role being undertaken. In other words, it was irrelevant to consider either a lack of experience, or even questions of fitness based upon the registrar's health record, because here she was fulfilling the role of an obstetrician competent to undertake caesarean sections without supervision.

60. It was not possible to say whether second stage labour had commenced from the reported features, but the court was asked to note the likely position of the foetus within the pelvis at the ischial spines and that no significant moulding had arisen between 23.00 and 23.25 hours, suggesting no notable further descent of the foetus, with associated pressure on the foetal head. He accepted that the evidence suggested a sub-optimal position for the head, but this was not outside the experience of most obstetricians. It had been indicated that no difficulties were anticipated following discussions with the consultant before delivery. He submits that all this supports a finding that impaction of the foetus sufficient to give rise to the difficulties described by Dr Raykova was unlikely. The question for the court was not whether or not there was impaction, but just how severe it was.

61. Mr Farkas should not be taken to task, says Mr Collins, for not accepting that this was a difficult delivery, because that was sufficiently obvious without being spelt out. His position had remained the same throughout, namely that any difficulties faced by the position of the foetal head did not make it impossible to achieve delivery. Failure to deliver as a result of impaction is an extremely rare occurrence and is not supported by the clinical presentation in this case. He submitted that the court could not draw upon the anecdotal experience of the respective experts; notwithstanding the concession of Mr Tuffnell that this was a very unusual case, and in view of Mr Farkas' expressed opinion that the outcome in this case was extraordinary, the question for this court was whether it was extraordinary because of the clinical presentation, or the failure of the registrar to respond properly to a difficult but recognised situation.

62. He accepted that there was evidence of tightness between the uterus and the foetal head, but no evidence to support any anatomical abnormality. This in any event had been denied by Dr Stone. Insofar as the court might be prepared to accept the impression of Dr

Raykova (he did not suggest that she was being untruthful), Mr Collins pointed out the absence of any mention in her initial note to the narrowness of the pelvic inlet, which did not support an exceptional or abnormal anatomy, nor in her statement for the RCA investigation. This should be contrasted with the observation of Dr Stone on the same investigation that there had been "very little room for manoeuvre". On the presenting clinical signs, submits Mr Collins, the court should conclude that whilst there may have been tightness, it was not to an exceptional degree.

63. In relation to the measures taken by Dr Raykova to address the difficulties encountered with the delivery, it is not criticised that these are other than reasonable. However it is submitted that the court should focus on what it was the registrar was trying to do to move the head , if anything. In this respect it is to be noted that it was Dr Raykova who first used the word "suction", which was probably not an appropriate description in view of the fact that the midwife's fingers could be touched. She does not mention applying any other technique than inserting the hand in one location between the uterine wall and the baby's head, and the comments made in the reflective practice statement are also relevant. If the registrar referred to "*next time she will try to deflex the head*", it could be inferred that that is not what she was doing on this occasion, notwithstanding references in the notes to attempts to flex and disimpact the head.

64. Further when considering the extent to which the measures undertaken by Dr Raykova may have facilitated delivery for Dr Stone, there was no reliable evidence that any of these would have made a significant difference, and it is to be noted that the difficulties continued for Dr Raykova after they had been implemented. The only difference may have been the administration of the terbutaline, but even on the Defendant's evidence the effect would not have been transformative. The difficulty was said to arise from the narrowness of the pelvic inlet rather than the tension of the uterus, and there is no evidence that contractions were continuing, or even noticeable at that time.

65. It is submitted that this court can properly conclude that the reason why Dr Stone was able to deliver relatively quickly (within two minutes) was because she undertook the appropriate task of flexing the foetal head in a competent manner to the standard of a reasonable obstetrician.

Defendant

66. Mr Browne, on behalf of the Defendant, identified five issues of fact which fell to be determined. (1), whether the head was seriously impacted; (2) whether this was an exceptionally difficult delivery; (3) whether Dr Raykova did in fact attempt to deflex the head; (4) whether there had been a material change in circumstances between the commencement of the delivery procedure (incision) at 23.57 and 00.11 when Dr Stone

arrived; (5) whether there had been any panic in the operating theatre on the part of the midwifery staff or the registrar. It was accepted that this final issue, which arose on the basis of the evidence of Mr Douse would not give rise to a finding which was likely to make much difference to the outcome.

67. He emphasised that the Defendant's concession on causation was limited to the first five minutes of the procedure, and it was not open to the Claimant to contend that any longer period could be implicated in a breach of duty. In other words, if this court were to find that Dr Raykova could and should have effected delivery in any period between five minutes and 11 minutes, the concession on causation has no bearing. The focus should therefore be on the first five minutes.

68. Although he acknowledged that the literature was not conclusive on any issue which fell to be determined, it did provide a basis, he submitted, for challenging any suggestion that significant difficulties could not be caused by impaction which would lead to delay and thus hypoxic injury. It addresses the assertion of the Claimant's expert, Mr Farkas, that it should always be possible to deliver within five minutes.

69. On the first factual issue, he submitted that there was a wealth of evidence to support a deeply impacted head in the pelvis. Apart from the notes (including those provided by Dr Stone post-operatively at page 200), evidence was available from midwife McLaren-Oliver who had tried to push the baby's head by inserting her fingers through the vagina, from Dr Raykova's own description even if she did not use the word "deeply impacted" in the notes, and from both the written and oral evidence of Dr Stone. In particular, he made reference to paragraph 31 of Dr Stone's statement. On the second issue, as to the difficulty of delivery, he submitted that this was not simply a matter of relative evaluation, but there was direct evidence confirming the lack of space within the uterus, the narrowness of the pelvis and the increased circumference of the head because of its position being right OP and being deflexed. In this latter respect, dealing with the third issue, Mr Browne submitted that notwithstanding the reflective practice statement, the more contemporaneous notes, including Dr Raykova's own post-operative note, suggest that there were several attempts to flex the head and there could not have been a touching of the fingers unless this is what the registrar had been attempting to do.

70. In relation to the material change at the time of Dr Stone's arrival, reference was made to all the measures which had been undertaken by Dr Raykova, including the administration of terbutaline which would have begun to take effect after six minutes, and thus by 00.11, as well as the fact that Dr Stone was approaching the delivery without fatigue, and with considerable experience.

71. In relation to the expert evidence, insofar as any view was to be preferred, Mr Browne submitted that Mr Farkas' change of position in making a concession on the issue of impaction and the difficulty of delivery belies his objectivity. In any event, he did not identify any additional steps which he says Dr Raykova should have undertaken to achieve delivery, apart from belatedly supporting reverse breech extraction, whereas both he and Mr Tuffnell had accepted that the measures taken by Dr Raykova were reasonable.

72. It was submitted that the Claimant's case, as now appeared to be common ground, did not depend upon an assertion that any failure to deliver within five minutes in late first stage labour was necessarily a breach of duty, but instead that in the prevailing circumstances there was not sufficient impaction or difficulty which meant that delievery could not be achieved. That was not supported by the evidence, said Mr Browne.

Discussion

73. As I have made clear throughout this judgment, liability has been contested within fairly narrow parameters. Whilst it might have been open to the parties to broaden the liability enquiry by reference to questions which arose from certain features of the evidence, undoubtedly for good and sound reason, decisions have been made that such issues should not be the subject of any enquiry or part of the respective pleaded cases. However, I identify three particular matters which whilst not determinative of liability, nevertheless may assist in informing the main question which falls to be resolved.

74. The first concerns the absence of the on-call consultant from the hospital, but in a village some seven miles away, thus making her arrival in any obstetric emergency from first contact, and absent any blue light facility, unlikely in much less than ten minutes. The notes suggest that she was summoned within two minutes, when difficulties were first encountered, and was at the operating table 11 to 12 minutes later. The Claimant has chosen not to pursue any case by way of pleading, or argued before the court, any negligence against the Defendant health authority on the basis that because there was such a small time window for a caesarean section once the uterus had been opened in which a baby could be safely delivered and without injury, the skill and expertise of the on-call consultant should have been far closer at hand to address any problem. Such an allegation would only have been sustainable if hypoxic injury in the context of a difficult delivery was identified as a real risk, and it was considered outside the range of skill of an obstetric registrar at ST4 level to deal with difficult deliveries. It seems to me that the reasoning behind the exclusion of any such pleading is that (a) a caesarean section lasting for this length of time was such a rarity (or beyond the scope of any sensible risk analysis) as not to justify the expense and commitment of an on-call consultant being present in the hospital and (b) it was expected that even a difficult delivery with a head impacted in the pelvis would and could be achievable within a safe period of time by an obstetric registrar.

75. The second matter relates to the Defendant's own position. Whilst the approach set out in (b) above has been adopted by the Claimant, it is endorsed, seemingly, by the Defendant's own stance in their pleaded case. Is not averred that the delivery of a (deeply)[7] impacted head, was outwith the skill and expertise of the surgical registrar. Indeed, in her evidence, Dr Stone did not question the capability of Dr Raykova to carry out the procedure. This is relevant, because although the standard of care to be attributable to Dr Raykova is that of the reasonably competent obstetric registrar, and it is not appropriate to associate with her the same level of skill, experience and training as a consultant, nevertheless in this case no suggestion has been made that there is a higher level which could only be achieved by a consultant of Dr Stone's experience.

76. The third matter I have already touched upon at paragraph 74 above. Whilst it is undisputed that an impacted foetal head is a recognised complication for a caesarean section, there is no pleaded suggestion that hypoxic injury, though recognised, is an accepted risk of a caesarean section. It is *recognised* in the sense that any deprivation of oxygen would cause varying degrees of injury and it is bound to arise in a prolonged delivery above 10 minutes. This is understandable, even in the absence of any published literature to such an effect. It is important to acknowledge the distinction between the risk of a deeply impacted foetal head, and the risk of hypoxic injury. Such material as is available focuses for the most part on the risks associated with alternative measures used to extricate a deeply impacted foetal head quickly and so as to avoid injury. Accordingly, the Defendant's case is that the difficulties encountered with the delivery of baby Hollie were so exceptional that the entire period involved (16 minutes) could not have amounted to negligence, regardless of the fact that delivery was achieved eventually by the consultant.

77. By this analysis of the pleaded cases which have not been advanced, it becomes easier to identify the central issue, which it seems to me is whether or not this delivery was so exceptionally difficult that it could only be achieved by the fresh and unfatigued surgical approach of Dr Stone, after Dr Raykova had tried and failed with all other methods. Mr Browne QC has provided a helpful matrix with which to approach the central issue, and a subset of facts which fall to be resolved, subject to two qualifications.[8] The first is that issues (1) and (2) are in reality closely connected, because a seriously impacted head would give rise to a difficult delivery. It then becomes a matter of degree as to whether that was exceptional. The factual issue as to whether or not Dr Raykova attempted to deflex (or flex) the head is subsumed into the more general question as to whether she attempted all methods available to her to dislodge the baby from the impacted position in the pelvis. The fifth issue is somewhat peripheral, as Mr Browne has acknowledged.

78. In assessing just how difficult this delivery was, and how deeply the head had become impacted within the pelvis, close to the pelvic inlet, I caution myself against placing too much store by medical notes written retrospectively, about 24 hours later, lest there be a

[7] This being their factual assertion on the evidence
[8] See para 66 above.

degree of subconscious self-justification. The near contemporaneous record provided by midwife Henry describes the delivery as "difficult", and it is essentially Dr Raykova's own summaries provided early the following morning, and later in the day that reference to a deep impact or engagement first arises, with reference made to potential causes for those difficulties. Undoubtedly this was a very upsetting and disturbing experience for Dr Raykova, who had not been able to prevent serious hypoxic injury to the baby she was trying to deliver, and a degree of attempted justification is nevertheless entirely understandable.

79. Similarly, the fact that the procedure took 16 minutes from start to finish might imply an exceptional difficulty encountered by both registrar and consultant, but it is equally consistent (in respect of the first 14 minutes) with a conclusion that Dr Raykova was either not capable of overcoming the difficulty which was not exceptional (in the sense of rarely encountered) because she was not possessed of the necessary skill sets, had not been adequately trained, or did not apply the appropriate technique, as is the case advanced by the Claimant.

80. On the other hand, Dr Stone was clear in her evidence that like Dr Raykova she had not been able to dislodge the baby's head from the uterine wall and had been required to "scout" around the space in order to deflex the head. It was her own assessment that this was a difficult delivery which left her arm aching with a significant clamping effect from the contracted uterus around the baby's head. It would normally take her a matter of seconds to deliver a baby in a caesarean section in the circumstances, but it took her far longer than usual. Whilst she did not use the word "exceptional", so as to imply substantially out of the ordinary, either in her written or oral evidence, or of such difficulty as never to be encountered by a trainee obstetric surgeon (registrar), I accept her account that this was a very difficult delivery because of the very narrow pelvic inlet which she encountered and that in such circumstances delivery is "notoriously" difficult.

81. Whilst the concept of "exceptional" has emerged during the evidence of the Defendant's expert witness, for the most part, and has been coined by counsel, it seems to me that it may be more helpful for me to determine whether or not the baby's head was deeply impacted within the pelvis, which is a concept that is easier to understand, and one seemingly acknowledged by the literature.

82. In this respect again it is a matter of degree, but I find myself unable to accept the evidence of the Claimant's expert as expressed in his written report, that the head could not have been impacted, if this meant that he was rejecting the experience encountered by both the registrar and Dr Stone in attempting delivery. However, whilst Mr Farkas did resile from the impression which he gave in his report, and accepted in cross-examination both impaction and difficulty, I do not regard this as such a significant shifting of opinion or change of stance, as is suggested by defence counsel, that his evidence generally should be undermined. His opinion appears to be drawn from the circumstances which were prevailing at 23.00

hours; in other words, with no caput and very little moulding, the foetal head level with the ischial spines, and the cervix at 9 cm dilatation. In paragraph 4.12 of his report, he says that "*there was no reason to suppose impaction of the foetal head*". This observation should be compared to the assessment provided by Dr Stone in her statement at paragraph 24, where she states that a difficult delivery was not anticipated on the basis of the presenting signs on the most recent examination (23.00 hours) and that the baby's head was unlikely to be impacted such as seen in prolonged labours because the time in active labour had not been long.

83. In these circumstances, I find as a fact that the baby's head was not only impacted but more deeply impacted than had been anticipated from the most recent vaginal examination. This was because Ms Jackson had a very narrow pelvic inlet, which could not have been detected on that examination, and the baby's head was not only in the OP position to the right, but deflexed, causing it to be "jammed" so to speak and requiring some manipulation to move it. It is clear that the baby's head was not below the level of the ischial spines, and this was not the cause of the difficulty in delivery, but I find that the foetus presented in a way which had not been expected before the uterine cut and that the degree of impaction did create significant difficulties for both the registrar and Dr Stone when she attended.

84. Whether this was exceptional, and thus did not give rise to any breach of duty from the failure to deliver within 16 minutes, depends almost entirely, in my judgment, on the circumstances which were prevailing at the time of Dr Stone's attendance. The inescapable fact is that the consultant was able to achieve a very difficult delivery, as she described it, which was extremely tiring, within two minutes, whereas Dr Raykova had failed to deliver the baby within the previous 14 minutes. In the absence of any assertion that Dr Stone possessed a particular skill or expertise that Dr Raykova did not, whether or not this amounted to a want of care/ falling below a reasonable standard of care on the part of the latter is determined only by a finding that there was no material change in circumstances.

85. I have not found this an easy question to resolve. It is to be noted that I have expressed it in such a way as to reflect the burden of proof on the Claimant, although as I pointed out in the course of exchanges with counsel, in a situation where one doctor was able to deliver relatively quickly when another had failed over a significant and crucial period of time, it might be expected that without more, the burden was easily discharged, unless there was at the very least an evidential burden, if not a requirement for an explanation on the part of the Defendant. It is with some relief that neither counsel have sought to extend the analogies which were emerging earlier in the case of the "jam jar effect" or "releasing the suction", which I found far from helpful. (In particular, Mr Tuffnell's suggestion of the next person releasing the lid of the jam jar with one twist ignores the reality in this particular case that Dr Stone found this to be a very difficult delivery.).

86. However, explanations have been proffered which I should consider in making my findings on this point. The first is that Dr Stone was providing a fresh and unfatigued pair of hands in circumstances where a significant amount of force and pressure was needed against an extremely tough uterine muscle which acted like a clamp. The second is that the measures undertaken by the registrar, including tilting the table, reducing gravity, asking the midwives to apply pressure *per vaginam,* undertaking a transverse incision to provide more room for manoeuvre within the uterus, and providing a stool, made it a far more straightforward process for the consultant. The third and perhaps most significant is that the terbutaline had begun to take effect and allowed the consultant an easier approach.

87. I shall deal with these separately. I accept that Dr Stone would not have been fatigued or exhausted upon her arrival, as Dr Raykova undoubtedly was. The latter had been trying over very many minutes and the procedure was one which required significant physical exertion. However, when the process began, she would not have been fatigued and it might have been expected that Dr Raykova had the necessary strength (which she herself accepted, because her physical problems did not prevent her carrying out her role). It was only because it had taken so long that she had become "*absolutely exhausted*", and this was hardly surprising. Thus, I cannot accept that physical fatigue played any role in the impossibility of achieving delivery within the first and crucial few minutes, although it is likely to have arisen in the latter stages.

88. In relation to the non-pharmacological measures, it is plain that from the surgical note, the accuracy of which is not challenged, that these were all undertaken in the earlier stages of the delivery attempt. By midnight, the midwives were attempting to push the baby's head, and the bed tilt was performed at the same time. Although the inverted T cut may well have been the last measure undertaken by Dr Raykova,[9] the evidence is that she continued to attempt to disimpact the baby's head after this, (describing "*several attempts*") but without success. Further, it is not suggested by Dr Stone that the wider access made any material difference.

89. Accordingly, I am not able to accept that any of the physical steps which were taken by Dr Raykova made it easier for Dr Stone when she began to attempt delivery. Although in the joint report Mr Tuffnell referred to "*each step causing incremental movement*" this does not appear to be borne out by the evidence because there is no suggestion that the head was other than in a significantly deflexed right OP position when Dr Stone arrived. The question which then arises is whether the terbutaline played a role.

90. The effect of this drug has not been explored in any great detail in the evidence, although at one stage the court was provided with a printout of the drug information sheet from the drugs.com website. This confirms that it is used for a number of purposes, including

[9] No time is given in the notes for this

for dealing with bronchial conditions, such as asthma, but it is accepted that on this occasion it was used as uterine muscle relaxant. It is said that the onset of its action arises within 6 to 15 minutes of subcutaneous application, which is what occurred here. Assuming the accuracy of the note on page 175 in volume one of the medical records, Dr Zahra injected this at 00.04 hours. Thus, the very earliest that the drug could have taken effect, would be at 00.10 hours which was one minute before the arrival of Dr Stone. Of course, there would be individual patient variability, so it is possible that the drug had not yet started to be effective. The median may be considered a more likely estimate of the beginning of effectiveness. The court was told that it is used to reduce or remove the effect of contractions of the uterus, often where premature labour has started. However, the reasonableness of using a muscle relaxant is not questioned by either the medical experts or the consultant. The evidence, further, is that the syntocinon, which had been used to induce contractions, had been discontinued about an hour earlier; although this would not necessarily have stopped the contractions, there is no indication given by either the midwives or Dr Raykova that contractions were continuing at the time of the operative procedure, or at least were noticeable. Of course, the contractions, if they were continuing, would have the effect of pushing the baby's head further towards the pelvic inlet, and ultimately the birth canal.

91. This is relevant when one considers the evidence, uncontested, of Dr Stone, and confirmed by Mr Tuffnell, that terbutaline operates to relax the muscles in the upper part of the uterus and not the lower end, where Dr Stone was working. It was said by Mr Tuffnell that here Dr Stone would have encountered tough connective tissue joining the uterus and the pelvic inlet, that would not have been muscle as such. This is entirely consistent with the impression given by Dr Stone of the non-pliable part of the uterus clamping against the baby's head.

92. In these circumstances I am unable to come to the conclusion that the terbutaline had made any notable difference to the state of the uterus, or that if it had, it had created an environment in which Dr Stone was able to disimpact the baby's head far more easily.

93. It follows that I am unable to find on a balance of probabilities that any of the steps taken by Dr Raykova in her attempt to deliver the foetus had made a material difference to the circumstances which were faced by the consultant. In other words, I find that Dr Stone faced the same clinical picture as that faced by Dr Raykova.

94. On the other hand, I place significant store by the evidence of Dr Stone as to how she was able to effect this delivery. Clearly, it was far from straightforward, because of the impaction, and the deflexed position of the head. Dr Stone made it clear that flexing the head, that is bringing it into a position whereby the chin was closer to the baby's chest and thus it could be moved away from the position in which it was lodged, and reducing the diameter within the pelvic inlet, was what needed to be achieved. Whilst she did refer to attempting to insert her hand between the anterior uterine wall and the left side of the baby's head which

would be the usual approach, (and that undertaken by Dr Raykova) this was not all that she did. Dr Stone described "*scouting around*" to find some space in which she could get behind the baby's head to flex it. She also described in her evidence putting her hand on the right-hand side of the baby's forehead in an attempt to achieve the leverage and that is when the baby's head gave way slightly.

95. The techniques described by Dr Stone should be contrasted to the description given by Dr Raykova. It is plain that the latter made repeated attempts to gain access between the left forehead and the uterine wall with the right hand. At no stage did she report trying any other technique to cause the head to be levered forwards, and thus to remove the deflexed effect. In other words, over a period of several minutes, Dr Raykova did not alter her technique. I should make it clear in this regard that I do not adopt an interpretation of the reflective practice statement that there were no attempts to flex the head. I am satisfied that the registrar knew that this was what she had to do, but her attempts at flexing were limited in their scope, and focused on the space between the head and the uterine wall anteriorly.

96. Within a couple of minutes Dr Stone, whose "*heart sank because she knew delivery was going to be difficult*" tried some other techniques and was successful. It is noteworthy that no suggestion has been made by either Dr Stone or Mr Tuffnell that these techniques could not have been performed by the registrar. The Defendant's evidence is that everything that Dr Raykova did was entirely reasonable in the context of an extremely difficult delivery, but it does not specifically address the question as to whether she could have tried a different technique. Understandably, Dr Stone does not criticise her colleague, but it is significant that at no stage does she assert that she was able to effect a delivery which would have been impossible for a registrar, or that her technique could not have been followed by Dr Raykova.

97. In my judgment, having concluded on a balance of probabilities that there was no material change in presentation between that faced by Dr Raykova and Dr Stone, the most likely explanation for the relative promptness of delivery for Dr Stone, which I accept was far more difficult than had been anticipated prior to the surgery, is that Dr Raykova was not possessed of the necessary skill and expertise to cope with such difficulties.

98. In this regard it is unnecessary for me to make any further finding as to why she did not adopt appropriate techniques to flex the head and dislodge an impacted foetus, that is whether this arose from an absence of training or was simply an inability to respond to a highly pressurised situation, because the standard of care fell below that of a reasonably competent obstetric registrar who could and should have been able to deal with such an obstetric emergency, and to have achieved delivery within five minutes, thus avoiding injury. Putting it another way, in my judgment there is no responsible body of obstetric registrars which would not have been capable of overcoming the difficulties encountered on this occasion. In this respect I accept the evidence of Mr Farkas. To determine otherwise, on the

basis of the matrix of facts I have found, would be tantamount to a conclusion that a trainee obstetrician owes no duty to achieve the delivery of a deeply impacted foetus.

99. I am assisted in coming to this conclusion in believing that the Defendants would not seriously contend otherwise, basing their case, as they do, on an assertion that this was an exceptionally difficult delivery which was so beyond that which would normally be encountered, which even an experienced consultant obstetrician would have struggled to effect within ten minutes, had it not been for the remedial measures that had been taken by the registrar. For reasons which I have explained, that is a case which I have rejected.

Conclusion

100. It must follow that the Claimant succeeds on the issue of liability and causation, and is entitled to damages to be assessed at a future date. I invite the parties to agree any consequential directions, and the issue of costs to enable the drawing up of a final order.

HH Judge Wood QC