

13 February 2023
Baby J

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Housekeeping

Monday, 13 February 2023
(10.30 am)

(In the presence of the jury)

MR JOHNSON: The set of charts that your Lordship has there are for divider 13.

MR JUSTICE GOSS: I have them ready with the file, ready to put in when we get to that moment, thank you. I also have the bundle of statements, thank you.

MRS KATE TYNDALL (continued)

Examination-in-chief by MR JOHNSON (continued)

MR JOHNSON: Yes.

Mrs Tyndall, on Friday we'd got to tile 334 of the sequence and I'll just give the jury a moment to log in to the iPads if they want to follow it on there.

(Pause)

334 tells us that on your -- you have summarised it that the medical notes indicate that [Baby J] continued to be cared for at the neonatal unit at Chester from 8 am on 28 November 2015 until 03.30 hours on 18 December when she was transferred to the Royal Manchester Children's Hospital.

TYNDALL: Yes.

JOHNSON: But during that period of time, we then have a series of messages being sent initially between Lucy Letby and [Nurse E], but then also involving Jennifer Jones-Key; is that right?

TYNDALL: Yes, that's correct.

JOHNSON: If we go through these, please. The events with which the jury are concerned had happened not long before the time that we're dealing with here, I think about 7 am, 7.30, on the 27th. So about 24 hours before these messages that we're about to see; is that right?

TYNDALL: Yes, that's correct.

JOHNSON: Just taking us through, I'll read the [Nurse E] ones and if you could deal with the Lucy Letby ones, please.

Do we start at 335 with [Nurse E] asking, "How was it"?

TYNDALL: Yes. And then Lucy Letby replies:

"Fine. Kept going with all the antibiotics, fluids, et cetera, but much better. Just about to leave."

JOHNSON: "Ah, good", replied [Nurse E]. Was there then a series of social message?

TYNDALL: Yes.

JOHNSON: Then Lucy Letby sent a message to Jennifer Jones-Key at 09.09; is that right?

TYNDALL: Yes, it reads:

"Sorry didn't reply. [Baby J] fine. Had blood and hasn't done anything else silly. Getting lots of bile and large losses so discarding and replacing with saline but otherwise okay. Still busy but had much, much nicer night. Did you have a good day?"

JOHNSON: Did she follow that up with a message to [Nurse E]?

TYNDALL: "Wish I finished nights this morning and could go home."

JOHNSON: And did [Nurse E] reply:

"Aw. Have you put mine in? Aw, you're nearly done"?

TYNDALL: Yes, then Lucy Letby replies with:

"Yeah, so all sorted. Although you better watch out, it might be all gone when you get back due to all the hours you owe. Yep, one more to go then family time."

JOHNSON: Then [Nurse E] sent one saying:

"She can bugger off, I've got my own tally. Ha ha, Bernie is unbelievable too. Yes, Belinda did C's long line IVAB in the morn and asked Bernie to do them in the afternoon. She was on about getting someone to check them and I said I could and she said she didn't realise."

TYNDALL: Yes.

JOHNSON: Then Jennifer Jones-Key responded:

"It's okay, just presumed you were busy. That's good. Glad your night was okay. Yeah, ta."

TYNDALL: Yes. Then Lucy Letby replies to [Nurse E]'s message:

"Oh what? That's a load of bull. Surely she knows everyone can check a drug. I'm on with her tonight. Ailsa was saying she hadn't used a Broviac for years and wasn't sure she was happy to do it, etc. I said it's just like a UVC, nothing different about it, and Belinda overheard and said yes, and told her she was a band 6 and would have to get on with it. Yvonne F pulling face this morning when I said her dressing needs changing."

Then follows this up with another message:

"After she copped out of being in charge and asked to take [Baby J]."

JOHNSON: [Nurse E] sent two in response:

"Why is Yvonne F pulling a face for fuck's sake? It's not hard. Has she got her then and doing hep lock too? And yes, Bernie obviously feels incompetent -- not [laugh out loud]. I told her that I am perfectly competent to check and would be able to access long and central lines [if] wasn't for the daft neonate rules."

TYNDALL: Yes. Then Lucy Letby replies:

"She has [Baby J] and D. Doesn't need a hep lock as on full IV. Have asked her to maybe send email out clarifying way to administer immunoglobulin after other night. Caroline B had told them they had done it wrong and should have used blood set and lipid filter, which isn't right so needs sorting. She was like, oh yeah, I'll try. Ha ha, you go girl."

JOHNSON: Are there then a series of social messages and messages about work but nothing to do with [Baby J]?

TYNDALL: Yes.

JOHNSON: Is the next tile, 351, one which concerns the collection of a pathology specimen?

TYNDALL: Yes.

JOHNSON: Then at 352 a text message outgoing from Lucy Letby to [Nurse E]?

TYNDALL: That reads:

"Got a reluctant Yvonne to update safety breach about immuno administration and we've put a set together in CD cupboard with instructions. She wanted to leave it until back off holds but said needs doing now. She's also written all [Baby J]'s stoma losses, fluid replacement given, bag change, etc, on obs chart and I think should be on fluid chart. She said they aren't big enough so told her she needs to sort that out too, ha ha. Hope you have good night."

JOHNSON: Response from [Nurse E]:

"Ha ha, well done. I think should be a specific chart for stoma babies."

TYNDALL: Yes.

JOHNSON: Do we then have a gap of about 3 weeks to Thursday, 17 December?

TYNDALL: Yes.

JOHNSON: And then in quick succession, at tiles 354 and 355, respectively 22.46 hours and 22.48 hours, the search history on Lucy Letby's Facebook account shows that she searched for first [Mother of Baby J] and then [Father of Baby J]?

TYNDALL: Yes.

JOHNSON: Then finally at 356, do you record the fact that the medical records indicate that [Baby J] was cared for at Manchester Children's Hospital and then at Alder Hey Children's Hospital until 6 January when she was discharged?

TYNDALL: Yes.

MR JOHNSON: Thank you very much. I don't know whether there are any questions.

MR MYERS: No questions, thank you.

MR JOHNSON: Thank you very much.

My Lord, whilst Mrs Hocknell comes in to deal with the neonatal reviews, which are going to be in a new file, can we also disseminate the charts for [Baby J]'s case? These are to go in the number 2 bundle, please, ladies and gentlemen, behind divider 13.

(Handed)

MRS CLAIRE HOCKNELL (recalled)

Examination-in-chief by MR JOHNSON

MR JOHNSON: Welcome back, Mrs Hocknell. For the recording, would you identify yourself, please?

HOCKNELL: Claire Hocknell.

JOHNSON: Thank you. We're moving on to the neonatal review schedule for [Baby J]. Looking at the first page, do we see what we are now used to as the standard cover sheet, which sets out the conventions that you have applied to the document as a whole?

HOCKNELL: Yes.

JOHNSON: Moving to the second page, have we there got set out the population distribution plan?

HOCKNELL: That's correct.

JOHNSON: We see that at the start of the shift, [Baby J] was in nursery 4, her designated nurse was Nicola Dennison?

HOCKNELL: Yes.

JOHNSON: We see that Lucy Letby was the designated nurse for the two children in nursery number 3?

HOCKNELL: Yes.

JOHNSON: Otherwise, we see the initials of the children in the other nurseries and two children in respect of whom the location is unconfirmed?

HOCKNELL: That's correct.

JOHNSON: Together with, in the bottom left-hand corner of the document, a couple of children who were in transitional care?

HOCKNELL: That's correct.

JOHNSON: So going to page 3 of 8, can we see that Lucy Letby was involved in the care of a number of children between tiles 22 and -- sorry, tiles 2 and 22?

HOCKNELL: Yes, that's correct.

JOHNSON: Just running our eye down the page, the two children in respect of whom Lucy Letby was the designated nurse were LF and DC?

HOCKNELL: Yes.

JOHNSON: But we see that her initials also appear on the records of NW and DM?

HOCKNELL: Yes.

JOHNSON: NW is the other child who was in nursery 4 with [Baby J].

HOCKNELL: Yes.

JOHNSON: And DM is a child whose location is unknown?

HOCKNELL: That's correct.

JOHNSON: At lines 22 and 23, do we see in those yellow-shaded boxes the two entries on this page that relate directly to [Baby J]?

HOCKNELL: Yes.

JOHNSON: And we see that Lucy Letby in effect signed or co-signed for medication given to [Baby J] at 00.02?

HOCKNELL: Yes.

JOHNSON: And that administration was updated on the computer a minute later?

HOCKNELL: Yes.

JOHNSON: Thereafter on the page there are quite a few other entries relating to AW, CP, DM and LF and DC --

HOCKNELL: Yes.

JOHNSON: -- in respect of whom Lucy Letby had an involvement?

HOCKNELL: Yes.

JOHNSON: Over the page to page 4 of 8, there do we see that [Baby J]'s entries, as before, are highlighted in that yellow?

HOCKNELL: Yes.

JOHNSON: Nicola Dennison, Dr Verghese and Dr Austin are the people in respect of whom or that it is recorded had contact with [Baby J]?

HOCKNELL: Yes.

JOHNSON: And that otherwise, Lucy Letby was involved with the children LF, DC and FB?

HOCKNELL: Yes.

JOHNSON: Thank you. Moving on to page 5 of 8, do we see that Lucy Letby co-signed with Mary Griffith at lines 122 and 123 for medication given to the child AB --

HOCKNELL: Yes.

JOHNSON: -- who was a child in nursery 2? So that's at 6.22/6.23. Otherwise, we then see the intervening period of

about half an hour before any event involving [Baby J]. There are no entries involving [Baby J]?

HOCKNELL: That's correct.

JOHNSON: No entries involving Lucy Letby either?

HOCKNELL: That's correct.

JOHNSON: The other child, NW, who was in nursery 4 with [Baby J], there are no entries involving that child either?

HOCKNELL: No.

JOHNSON: We then see marked at line 134 the first of the events that have been marked in this concerning [Baby J] at 6.56?

HOCKNELL: Yes.

JOHNSON: Next is Dr Gibbs' note entered there and we're about to hear from Dr Gibbs about this.

HOCKNELL: Yes.

JOHNSON: And at the same time, we have a nursing note attributed to Mary Griffith and Lucy Letby --

HOCKNELL: Yes.

JOHNSON: -- in this document? Followed by the start of an infusion at line 141, signed by Lucy Letby and Mary Griffith?

HOCKNELL: Yes.

JOHNSON: At 144 a further infusion, timed at 7.20, signed by Lucy Letby and Mary Griffith?

HOCKNELL: Yes.

JOHNSON: Just in the meantime, just to try and keep an eye on who's doing what, looking between the two black lines at 134 and 148, other than entries involving [Baby J], we can see that Nicola Dennison, her designated nurse, made two entries at 138 and 139 for the child KB?

HOCKNELL: Yes.

JOHNSON: KB is one of the children in respect of whom the -- sorry, KB was in nursery 2; is that right?

HOCKNELL: Yes.

JOHNSON: So in other words, the designated nurse for [Baby J] wasn't in the nursery at this time, was in nursery 2 dealing with another child?

HOCKNELL: Yes.

JOHNSON: After the event at line 148, timed at 7.24, do we see further entries relating to [Baby J] and none of them involve Lucy Letby?

HOCKNELL: That's correct.

JOHNSON: And indeed the first entry involving Lucy Letby in the half an hour or so after line 148 is at line 178?

HOCKNELL: Yes.

JOHNSON: That involves giving medication to a child whose initials are marked in here as [redacted]?

HOCKNELL: Yes.

JOHNSON: I'm afraid I hadn't spotted this anomaly before. Is [redacted] -- yes, sorry, if we go right to the end, page 8 of 8, keep a finger in page 5, we see there was another child with the initials [redacted], the bottom right-hand corner of that population chart.

It may be worth, if people want to remind themselves, writing in there "not [Baby J]".

MR JUSTICE GOSS: Well, isn't the simple way, saying that whenever it is [Baby J], it is her full name?

MR JOHNSON: Yes.

MR JUSTICE GOSS: So unless you see [Baby J], it's another child. That's the simple way.

MR JOHNSON: Yes.

At 8 o'clock, we have the feeding chart for [Baby J], marked by Mary Griffith at line 179?

HOCKNELL: Yes.

JOHNSON: And then over the page, to page 6 of 8, we see that Lucy Letby there, her activity stands out in blue between lines 185 to 187 and 191 to 193, involved with that same child, [redacted]?

HOCKNELL: Yes.

JOHNSON: So far as [Baby J] was concerned, those entries attributed to Mary Griffith and Ailsa Simpson are between lines 188 and 190?

HOCKNELL: Yes.

JOHNSON: And then subsequently, at the bottom of the page, 215 and 216?

HOCKNELL: Yes.

JOHNSON: On the final page do we see the same two nurses were involved with [Baby J] in those yellow highlighted lines?

HOCKNELL: Yes.

JOHNSON: But so far as Lucy Letby was concerned, we're restricted to line 247 and an entry on an apnoea chart for a child, DM --

HOCKNELL: Yes.

JOHNSON: -- who was in nursery 2 by that stage?

HOCKNELL: Yes.

JOHNSON: That takes us to the final page, page 8 of 8. There we have the population distribution on the ward in the unit. Lucy Letby still the designated nurse for the two children in nursery 3?

HOCKNELL: Yes.

JOHNSON: And by this stage, [Baby J] had been moved to nursery 2?

HOCKNELL: That's correct.

JOHNSON: The only other significant difference is the admission of that child, [redacted], and a further child, FC?

HOCKNELL: Yes.

JOHNSON: Both of whose names or initials appear in that

"unconfirmed location" box towards the right side of the page?

HOCKNELL: That's correct.

MR JOHNSON: Thank you. I don't know whether --

MR MYERS: No, thank you.

MR JOHNSON: Thank you very much, Mrs Hocknell.

(The witness withdrew)

Witness statement of DR DAPHNE CHONG (read)

MR DRIVER: May I read two statements, please? Firstly, from a Daphne Chong, whose statement is at page 8 of your Lordship's reading bundle.

Members of the jury, Dr Chong made a statement dated 17 May 2018. The relevant parts of which I read to you, beginning with:

"At the time of the birth of [Baby J], I was an ST5 working in the Countess of Chester Hospital."

Under the title "Birth of [Baby J]":

"I have reviewed the maternity notes of this birth and can comment as below.

"On 30 October 2015, [Mother of Baby J], [Baby J]'s mum, had been admitted by the day unit team. She had been known to have a premature rupture of the membrane (waters broken) with her pregnancy, which was currently at 32 weeks.

"[Mother of Baby J]'s membrane had ruptured on 7 October 2015 and she had been having outpatient monitoring. She was admitted on 30 October 2015 as there had been a change from an outpatient monitoring point of view which was suggesting infection.

"Her pregnancy had initially been a twin pregnancy with a condition that was compromising the pregnancy early on, known as twin-to-twin transfusion, with one of the twins dying prenatally.

"On 31 October 2015, I was working a 12-hour shift at the Countess of Chester Hospital. At approximately 09.30 hours I was completing ward rounds with Dr Davies and examined [Mother of Baby J] and felt that the complication from the ruptured membrane was becoming infected.

"When the membranes have ruptured during pregnancy, there are two main risks which are prematurity and infection. The liquid that [Mother of Baby J] was passing had changed and she was having stomachaches. In this case the risk of infection

outweighed of that prematurity and I made the decision that the caesarean operation for [Mother of Baby J] should be brought forward to later that day.

"I completed the caesarean section with no complications and [Baby J] was handed to the midwife with my notes stating:

"'Straightforward entry. Delivery with blood loss of 300ml.'

"I then continued to care for [Mother of Baby J]. The placenta was delivered with no complications and was removed at the same time as the caesarean section. I closed [Mother of Baby J]'s abdomen and she went to recovery whilst I left the theatre.

"If there were any complications during birth I would see the patient the same day. Because [Mother of Baby J]'s caesarean section was completed with no complications, I saw her on the post-natal ward the next day when she was wanting to be discharged as [Baby J] had been taken to Alder Hey Children's Hospital and she wanted to be with her. [Mother of Baby J] was discharged that day."

Witness statement of DR SARAH WOOD (read)

MR DRIVER: The next statement to be read is from Sarah Wood, whose statement is at page 23. A statement dated, members of the jury, 16 April 2020, stating:

"I am employed as a consultant paediatric and neonatal surgeon at Alder Hey Children's National Health Service Foundation Trust.

"My role is a general paediatric surgeon covering elective and emergency cases in both children and neonates. As a hospital, we also provide outreach services to Chester.

"[Baby J], date of birth 31 October 2015, was referred on 31 October 2015 by Chester hospital with bilious vomiting and radiology consistent with possible bowel obstruction and possible compromised bowel (malrotation/volvulus). This was on the background of being premature, that is to say 32 weeks and 2 days, and the surviving twin of twin-to-twin transfusion syndrome. On transfer to Alder Hey on 1 November 2015, she was intubated and ventilated, on antibiotics, with appropriate intravenous access. The transfer was to the paediatric intensive care unit.

"[Baby J] was taken to theatre by myself as an emergency with the finding of intra-abdominal adhesions and an isolated dilated loop of small bowel with an intestinal perforation. We resected

this perforated bowel (7.5 centimetres) and formed stomas. We also inserted a tunnelled central line for nutrition (Broviac)."

So that's the nature of a Broviac line and shortly, my Lord, the jury will watch an animation of a Broviac line:

"Pathology from this procedure was consistent with necrotising enterocolitis (bowel death), a condition seen in premature infants or those with a restriction of blood flow to the bowel.

"[Baby J] recovered well post-operatively. In the notes of 9 November 2015 made by a colleague, Dr Shaw, a consultant neonatologist, it is commented that she could be transferred back to Chester for ongoing management. This was noted again on 10 November 2015 and transfer back was arranged with a plan for stoma closures in January 2016.

"Feeds were being increased at 2ml eight-hourly with a concurrent reduction in intravenous feed TPN.

"She was having her stoma output recycled. There is documentation on 9 November to suggest that Chester confirmed they were able to perform the recycling. Her central line remained in situ as she was still having feeds through this.

"Cardiology were planning, at discharge, to review her echo images and inform Chester of her planned follow-up."

This witness's statement then moves forward in time to 23 December 2015, which corresponds to an entry at tile 356 on our sequence of events. If Mr Murphy could put that up so we can all orientate ourselves.

This is a point in time when [Baby J] had returned to Chester, then been moved to Manchester, and was discharged from Manchester back to Alder Hey.

Returning to the statement:

"[Baby J] was transferred back to Alder Hey under my care on 23 December 2015 from Royal Manchester Children's Hospital. She was recovering from a Klebsiella line infection, which had been treated in Manchester due to lack of beds in Alder Hey. This infection grew from a culture from her tunnelled central line, the Broviac line. She recovered as expected.

"The plan for stoma closures altered due to her inpatient status along with some complications with a fistula, which is an extra opening at the base, causing leakage ++.

"This had meant that it was challenging to recycle the stoma output into her other downstream stoma, which meant her weight had faltered. Her weight had dropped from the 50th centile to under the 0.4 by readmission. The date for the stoma closures was therefore brought forward to 30 December 2015.

"The stoma closure on 31 December 2015 (performed by myself) was straightforward and [Baby J] was discharged fully fed on 6 January 2016.

"Her tunnelled central line (Broviac line) was removed by Mr Robert Peters, a registrar, on 5 January 2016 before discharge.

"Clinical reviews in Alder Hey on 12 February 2016, 15 March 2016 and 19 May 2017 in outpatients were as expected. She initially had some blood in her stools, but this was felt to be secondary to milk allergy. This settled with cows' milk protein exclusion as recommended by an Alder Hey dietician.

"Parents were progressing up the milk ladder at the last clinic appointment. I last saw [Baby J] on 19 May 2017. I noted that she was doing very, very well and the decision was made that she would be discharged from clinic.

"[Baby J]'s recovery after the first operation was as expected. All the problems she encountered between the two operations (line infection, fistula at the base of the stoma) are recognised complications of stomas and also having an indwelling tunnelled central line. I cannot comment on whether the care of these was appropriate or not during her time in Chester."

With Mr Murphy's assistance, we'll play a very short animation to help us better understand the Broviac line.

(Video played to the court)

That concludes this animation, which of course can be reviewed by anybody upon demand.

MR JUSTICE GOSS: All right. Did you manage to follow and understand all that? Insertion of the line into the skin, it then goes up into the vein in the neck, close to the heart. A Broviac line is used when central venous access is required long-term or because other means of venous access are not possible because of the previous insertions of venous lines. I hope that's a fair summary of it.

MR ASTBURY: I call Mary Griffith, please.

MS MARY GRIFFITH (sworn)

Examination-in-chief by MR ASTBURY

MR ASTBURY: Could we start with your full name, please?

GRIFFITH: Mary Griffith.

ASTBURY: Are you a retired state-registered nurse?

GRIFFITH: Yes.

ASTBURY: Did you retire from the neonatal unit at Chester in 2016?

GRIFFITH: Yes.

ASTBURY: Thank you. We've heard about the various banding of nurses in the unit already. Could you assist us, please, with what band you were classified as?

GRIFFITH: 5.

ASTBURY: Thank you. Did you have any additional qualifications over and above your band 5 status?

GRIFFITH: No.

ASTBURY: In particular, did that exclude the intensive care qualification that we've heard about from other witnesses?

GRIFFITH: Yes.

ASTBURY: Did that, to an extent, limit the acuity of children you could treat?

GRIFFITH: Certain procedures I couldn't do.

ASTBURY: Could you treat, for example, babies classed as intensive care?

GRIFFITH: No.

ASTBURY: Were you able to treat babies who were classed as high dependency?

GRIFFITH: Yes.

ASTBURY: So that's where the ceiling was, if I can put it that way?

GRIFFITH: Yes.

ASTBURY: Thank you. You talk about various procedures you couldn't carry out. Could you summarise those for us, please?

GRIFFITH: I couldn't administer drugs via long lines or central lines and I didn't look after ventilators.

ASTBURY: Thank you. We've heard drugs could be administered intravenously by way of a bolus. Was that something that you could do?

GRIFFITH: Yes.

ASTBURY: Right. You've been asked to help us today with your treatment of a baby named [Baby J] --

GRIFFITH: Yes.

ASTBURY: -- and in particular a night shift that you completed between the 26th and 27 November 2015.

GRIFFITH: Yes.

ASTBURY: Were you able to view [Baby J]'s medical records to assist with your recollection?

GRIFFITH: Yes.

ASTBURY: And during the course of your interview and subsequent statement, did you have access to those notes?

GRIFFITH: Yes.

ASTBURY: Good. Do you have an independent recollection of [Baby J]?

GRIFFITH: Yes.

ASTBURY: What do you remember about [Baby J] without reference to the notes?

GRIFFITH: She was a premature baby who had had surgery, had stomas in situ, and was finding it difficult to put on weight.

ASTBURY: Right. Were you familiar with stomas personally in your experience as a nurse?

GRIFFITH: Yes. I trained as a general nurse. I do hold a children's nurse qualification.

ASTBURY: Right. Particularly stomas, was that something that you were experienced in?

GRIFFITH: Yes, I experienced in my other jobs, yes.

ASTBURY: Do you recollect [Baby J]'s parents?

GRIFFITH: Yes.

ASTBURY: And her demeanour as a baby?

GRIFFITH: Yes.

ASTBURY: Could you assist us with those, please?

GRIFFITH: A very... how can I put it? A very nice baby, a joy to look after.

ASTBURY: I mentioned the shift that I'm going to ask you about.

You, I think we've heard, would start a night shift or you'd come in at 7.30, there would be a handover process, and effectively you would take over from 8 o'clock. Is that your recollection?

GRIFFITH: Yes.

ASTBURY: Thank you. To assist in your recollection, you'll see a screen slightly to your right there. I'm going to ask Mr Murphy, who's behind me, to put up tile 129, please.

Before we go into any detail, do you remember the shift --

GRIFFITH: Yes.

ASTBURY: -- on that particular night?

GRIFFITH: Yes.

ASTBURY: Do you remember whether it was a busy shift or not?

GRIFFITH: I don't think it was overly busy, no.

ASTBURY: Well, let's start with this particular -- we don't need to go behind this slide. You'll see we've had access to the swipe data and you arrived on the unit at 19.17 hours. Would that be pretty typical for a night shift?

GRIFFITH: Yes.

ASTBURY: Then if we go to tile 140 and go behind that, please.

It should be a representation of the personnel and allocation that night. We can see there -- these will be names, I'm sure, familiar to you -- Stephen Brearey was the paediatrician of the week and the consultant on call that night was Dr John Gibbs. I don't know whether you recall the registrar and the night SHO, Rhiannon Austin and Kaliyili Verghese respectively? Do you remember those two people?

GRIFFITH: Not really, no. I've been retired for 6 years.

ASTBURY: Okay. Looking at the nursing staff, perhaps more importantly from your perspective, the shift leader was Caroline Oakley. You were also on duty with Lucy Letby and Laura Eagles. We can see in the lower box two nursery nurses, Nicola Dennison and Vicky Blamire.

GRIFFITH: Yes.

ASTBURY: You'll remember those individuals?

GRIFFITH: I remember all those, yes.

ASTBURY: Thank you. If we can scroll down again. This is a representation of the various allocations that night.

If you could just confirm for me, please, that you had a baby in nursery 2 --

GRIFFITH: Yes.

ASTBURY: -- with the initials FB? We can see that [Baby J] had started the shift, if we look to the top left, in nursery 4, with another baby, allocated to a nursery nurse named Nicola Dennison. Is that consistent with your recollection?

GRIFFITH: Yes.

ASTBURY: Lucy Letby was in nursery 3 with two babies. And looking at those numbers, does that confirm or otherwise your recollection that it wasn't a very busy shift?

GRIFFITH: I can't honestly say. It was a long time ago.

ASTBURY: Okay. We can see that you were not [Baby J]'s designated nurse at the start of the shift.

GRIFFITH: No.

ASTBURY: Did you become responsible for [Baby J] at some point in the shift?

GRIFFITH: Yes. She was moved into nursery 2 where I was working and at that point the care was handed over to me so that Nicola Dennison could carry on with her work in 4.

ASTBURY: Right. My Lord, we're not in a position [sic] to call Nicola Dennison until tomorrow so I apologise if the chronology is a little out, but that's the position we're in.

Do you remember what time [Baby J] would have come into nursery 2?

GRIFFITH: I think it was round about 5 or 6 o'clock in the morning.

ASTBURY: Do you remember when your first involvement with [Baby J] was on that shift?

GRIFFITH: At about 4 o'clock she had -- her monitors went off.

I wasn't busy in 2 and there was somebody else in there, so I went down to see if Nicola needed any help with her.

ASTBURY: Do I take it from that you could hear the monitors --

GRIFFITH: Yes.

ASTBURY: -- from nursery 2 --

GRIFFITH: Yes.

ASTBURY: -- alerting in nursery 4?

GRIFFITH: Yes.

ASTBURY: Okay. And when you went into nursery 4, do you remember what you saw and what you heard?

GRIFFITH: Nicky had the Neopuff on her because she'd gone apnoeic and she'd desaturated. As I walked in, about 2 seconds behind me the doctors came in and they took over, so I left the nursery at that stage because there was enough members of staff to deal with it.

ASTBURY: We haven't heard from Nicola Dennison yet, but her notes suggest that [Baby J] first was in that sort of condition at about 4 am when she had just taken a feed. Do you remember whether there was a feed involved in that particular incident or not?

GRIFFITH: I can only go on what was written down. I've got no knowledge myself, no.

ASTBURY: I would like to go next, please, to tile 160 then. This is a form that you may or may not have seen before.

It's called an apnoea/brady and fit chart. I'm sure you have seen the general form, but maybe not this one.

I am assuming that to be Nicola Dennison's signature, which we will find out.

GRIFFITH: Yes, it is.

ASTBURY: That indicates two collapses, presumably sufficiently significant to (inaudible: distorted).

GRIFFITH: All episodes are recorded on that chart.

ASTBURY: Okay. We can't see the 4 am there.

GRIFFITH: Well, I'm only trying to remember, it might be 4.40, I don't know. It's a long time ago.

ASTBURY: That's why I wanted to show it to you, just to see if you were able to assist more accurately with the time, but you don't know.

Do you recall any conversation with Nurse Dennison over an incident that you didn't attend? Do you remember any conversations with her about that sort of thing involving [Baby J], obviously?

GRIFFITH: No. It's a long time ago.

ASTBURY: All right. Looking at that second entry at 05.03, is that consistent with the time that you recall [Baby J] --

GRIFFITH: Yes.

ASTBURY: -- being brought into nursery 2?

GRIFFITH: Yes, the doctors decided at that point that it was best to move her to 2.

ASTBURY: Why did they make that decision, do you know?

GRIFFITH: Oh, well, having had two episodes -- 4 is the end nursery and having had two episodes she was moved up to where she could be monitored and more closely observed.

ASTBURY: Were you in the nursery when she was brought in?

GRIFFITH: Yes.

ASTBURY: What's your recollection, we've looked at the chart, were there any other babies in nursery 2 at the time?

GRIFFITH: I know I was looking after one other. I don't know how many were in there, no.

ASTBURY: Having been brought into nursery 2, was [Baby J] attached to a monitor?

GRIFFITH: Yes.

ASTBURY: You'd heard an alert earlier. Was there a change, was it a different type of monitor in nursery 2 than it would have been in nursery 4?

GRIFFITH: Um... I can't remember now because we had two kinds of monitors. I couldn't answer that one.

ASTBURY: But certainly it was an alarm the first time that you were alerted to it?

GRIFFITH: Yes.

ASTBURY: And she was attached in nursery 2 to a Philips monitor?

GRIFFITH: Yes.

ASTBURY: Okay. Do you remember her being prescribed antibiotics at that stage?

GRIFFITH: Yes.

ASTBURY: Did you continue to monitor and observe [Baby J] for the rest of your shift?

GRIFFITH: Yes.

ASTBURY: Did she have any further episodes that you recall?

GRIFFITH: She had two further episodes.

ASTBURY: Do you have an independent recollection of the first?

GRIFFITH: Um... I was alerted to the first one. I think I was seeing to the other baby I had and the alarms went off and that alerted me to go over and see what was happening with her.

ASTBURY: Right. You were already in nursery 2 then when it happened?

GRIFFITH: Yes.

ASTBURY: Anybody else in nursery 2 when it happened?

GRIFFITH: I honestly can't remember.

ASTBURY: All right. I think you helpfully provided the police with a plan of where you were and where [Baby J] was when this happened. I'm going to ask you to look at that and confirm it, please. That's J15454, please.

We need to zoom in a little bit, I think, on the left-hand side.

Firstly, do you recognise that as a plan of the neonatal unit as it was?

GRIFFITH: Yes.

ASTBURY: We've got nursery 1 being the bigger room, almost in the centre of our picture. We can look to the left to nurseries 2, 3 and 4.

GRIFFITH: Yes.

ASTBURY: So just looking, did you make those marks in nursery 2?

GRIFFITH: Yes.

ASTBURY: And what does the A signify, please?

GRIFFITH: That's where [Baby J] was put.

ASTBURY: Is that in the corner? So I suppose as one went through the door she'd be in the corner on the left-hand side?

GRIFFITH: Yes.

ASTBURY: And B signifies, please?

GRIFFITH: Where the baby I was looking after was.

ASTBURY: And thus would that have been roughly where you were?

GRIFFITH: I would have been in the nursery somewhere, yes.

ASTBURY: You don't recall if anyone else was in there at the time?

GRIFFITH: No.

ASTBURY: Do you recall if anybody joined you?

GRIFFITH: I remember on the first thing -- I think Lucy came and the shift leader would have come.

ASTBURY: By Lucy, Lucy Letby?

GRIFFITH: Yes.

ASTBURY: And I think the shift leader, Caroline Oakley?

GRIFFITH: Yes.

ASTBURY: You made a note of the incident in your nursing records?

GRIFFITH: Yes.

ASTBURY: I'm going to ask Mr Murphy to go to tile 198, please.

Do you have an independent recollection of how [Baby J] was when you went to her on that occasion?

GRIFFITH: Yes. She had desaturated and apnoea-ed. She was pale and she was rigid in one arm.

ASTBURY: Okay. In your experience as a nurse, the rigidity in one arm, is that something that you'd seen before?

GRIFFITH: Yes, it can denote that there might be a cerebral problem, a brain problem, or that she is fitting.

ASTBURY: Okay. Is this the note of that particular incident that you recorded?

GRIFFITH: Yes.

ASTBURY: And that time presumably would have been fresher in your memory then that it is now?

GRIFFITH: Yes, certainly.

ASTBURY: So [Baby J]'s monitor went off, you told us, at 6.56.

Yourself and Lucy Letby attended. You mention there you found the baby with pale hands and very rigid.

GRIFFITH: Mm-hm.

ASTBURY: It doesn't specify the right arm; is that your recollection now?

GRIFFITH: Um... Maybe not. I don't know.

ASTBURY: It's not a memory test. I'm just asking if you can --

GRIFFITH: I'm sorry, it was a long time ago.

ASTBURY: We understand. It says, "Sats went to 7".

GRIFFITH: Yes.

ASTBURY: Is that right or should there be another figure there?

GRIFFITH: I don't know.

ASTBURY: Well, if it assists, I'm sure I can do this, your statement suggests 78%.

GRIFFITH: Yes, it's more likely to be 78. I'm trying not to...

You know.

ASTBURY: Thank you for not jumping the gun. I think we all agree, your statement says 78%:

"Heart rate down to 68. [Baby J] was then Neopuffed with little improvement."

So do you remember who Neopuffed?

GRIFFITH: No.

ASTBURY: No, okay. Dr Gibbs was on the unit?

GRIFFITH: Yes. He used to come in quite early in the morning and make sure everything was all right, so he appeared just as this was happening.

ASTBURY: When you say "check everything's okay", what sort of things did that involve?

GRIFFITH: He just used to like to come round and have a wander round the unit before the day started and see what was going on, if we'd had admissions or whatever and... you know.

ASTBURY: And when he did that, would he generally check on the babies?

GRIFFITH: He'd talk to the staff, check if they needed -- the babies needed to be checked.

ASTBURY: Okay. And that was his practice when he was working on a day shift?

GRIFFITH: Yes.

ASTBURY: So he was already there, no need to bleep him, as we've heard is sometimes the case in these sorts of situations.

GRIFFITH: I think the bleep would still have gone out though because he would have needed back-up.

ASTBURY: Right, okay. Do you remember him coming?

GRIFFITH: Yes, I remember him -- I was quite relieved.

ASTBURY: Do you remember what he did when he arrived?

GRIFFITH: He took over the Neopuffing.

ASTBURY: We can see there that you've continued to note that a bolus of 20ml per kilogram of saline was given via what we've heard -- [Baby J] had a Broviac line fitted.

GRIFFITH: Yes.

ASTBURY: That took place at 07.09. Can you recall who administered the bolus?

GRIFFITH: I can't recall who administered it, but it wouldn't have been me because you have to be intensive care trained to give drugs via a central line. But I could have checked it.

ASTBURY: Right. We've heard the process is two nurses always check medication?

GRIFFITH: Yes.

ASTBURY: One to administer?

GRIFFITH: Yes. And the check nurse goes with the nurse administering to check the baby is the correct child.

ASTBURY: Thank you. Then you've noted that Neopuff continued for 16 minutes until those saturations at 75% improved.

GRIFFITH: Yes.

ASTBURY: Presumably to where they should be?

GRIFFITH: Yes.

ASTBURY: Thank you. Just dealing with the 20ml that you described to us there that you wouldn't have been able to administer because of your status, could we go, please, to tile 200?

I'm going to ask you to look at an infusion chart, please. Is that a form that you're again familiar with?

GRIFFITH: Yes.

ASTBURY: Could we zoom in a little bit, please, Mr Murphy? There are two entries there I'd like to ask you about, please.

If we start with -- is that your signature in both of the boxes towards the right-hand side?

GRIFFITH: Yes.

ASTBURY: Do you recall who you either checked or administered those drugs with?

GRIFFITH: That's Lucy Letby's signature, so it would have been her.

ASTBURY: On both occasions?

GRIFFITH: That's what the chart says, yes.

ASTBURY: There are two entries and your note says that the saline bolus was at 07.09. Is that a line through that particular entry? If so, can you recall why?

GRIFFITH: No. No idea.

MR JUSTICE GOSS: There were two questions there. First question: is there a line through that entry?

GRIFFITH: Yes.

MR JUSTICE GOSS: All right.

MR ASTBURY: Thank you.

MR JUSTICE GOSS: But you don't know why?

GRIFFITH: No.

MR ASTBURY: You recall it being administered?

GRIFFITH: It's in my notes, yes, so yes.

ASTBURY: Okay. And bearing in mind that you told us you couldn't have administered that bolus, who would have administered it?

GRIFFITH: Lucy Letby.

ASTBURY: Moving up the form, so 11 minutes later, there's an infusion of glucose, is that right, 10% glucose?

GRIFFITH: Yes.

ASTBURY: That's not a bolus, that's --

GRIFFITH: No, that's not a bolus, no.

ASTBURY: -- given over a period of time?

GRIFFITH: Yes.

ASTBURY: And if we just follow, I hope, the logic that we've just gone through, the same two signatures?

GRIFFITH: Yes.

ASTBURY: Are you able to administer that infusion?

GRIFFITH: Only if it went via an intravenous line. If it was going via the Broviac, no.

ASTBURY: Just going back to [Baby J] after that incident at 06.56 and the Neopuffing that you told us about, you told us she improved.

GRIFFITH: Yes.

ASTBURY: How initially did she seem after that improvement?

GRIFFITH: I didn't have many concerns about her. I was obviously watching her closely but she seemed to have stabilised.

ASTBURY: Right. Did you remain with [Baby J] thereafter or did you leave the nursery for any reason?

GRIFFITH: No, I stayed in there because she'd had these dos and she was -- you know, could go again, and I stopped there until the day staff took over.

ASTBURY: Was there another incident involving --

GRIFFITH: Yes, there was.

ASTBURY: All right. Did you make a note of that incident as well?

GRIFFITH: Yes.

ASTBURY: I'm going to ask, please, Mr Murphy to go to tile 210.

Again, before we read it, any independent recollection of the second incident when you were there?

GRIFFITH: It was very similar to the first incident that I dealt with.

ASTBURY: What did you see in [Baby J]?

GRIFFITH: I'd have to look at my notes, sorry.

ASTBURY: Let's go to the notes. I'll read it to you:

"07.40 [Baby J] had a further episode."

Please correct me if your recollection differs from the note you have made:

"Fists white and clenched, rolled eyes to the left. Sats 70s. [Baby J]'s sats became lower and were unstable. Neopuffed again by Dr Gibbs for a further 8 minutes."

Pausing there, was Dr Gibbs still in the room when this happened?

GRIFFITH: I think he was just outside at the unit desk writing up drugs and his notes.

ASTBURY: Okay. Do you remember anybody else being in the room when it happened?

GRIFFITH: No.

ASTBURY: Is that there was nobody or you just can't remember?

GRIFFITH: I can't remember.

ASTBURY: Okay. Did others in addition to Dr Gibbs come and help?

GRIFFITH: Yes. I think Lucy Letby came back in and I think Caroline came as well.

ASTBURY: Okay. Looking at the time, presumably there would have been members of the day staff as well in the unit?

GRIFFITH: Yes, yes.

ASTBURY: Okay. You then describe what's called a loading dose of 38 milligrams of phenobarbitone given by a Broviac.

What's the purpose of phenobarbitone, please?

GRIFFITH: It's an anticonvulsant drug.

ASTBURY: Is that because, for the second time, you're seeing those symptoms of rigidity?

GRIFFITH: Yes.

ASTBURY: Are the eyes rolling significant as well in that regard?

GRIFFITH: Yes, can be, yes.

ASTBURY: You also describe in your note there, I think -- is that cefotaxime?

GRIFFITH: Yes, cefotaxime and teicoplanin.

ASTBURY: They were given via the Broviac at 8.35?

GRIFFITH: Yes.

ASTBURY: Your note continues:

"Parents rung by Laura Eagles and informed [Baby J] was unwell. They came in and were updated by Dr Gibbs."

GRIFFITH: Yes.

ASTBURY: Anything else you recall, please, from that particular collapse suffered by [Baby J] at 07.40?

GRIFFITH: No.

ASTBURY: Bearing in mind the time, I think we might know the answer, did you have any more to do with [Baby J] during the course of that shift?

GRIFFITH: I stopped on to check her antibiotics, she got them quickly, and did my notes and got home at 10.30.

ASTBURY: Right. A late finish?

GRIFFITH: Yes, very late.

MR ASTBURY: Okay. I have no more questions for you.

Thank you. If you could wait there for a moment.

Cross-examination by MR MYERS

MR MYERS: Mrs Griffith, I'm going to ask some questions, just some background questions first, and then just a few questions about the morning that you've been telling us about second.

GRIFFITH: Right.

MYERS: Thank you. I think you're retired now, as you've explained to us?

GRIFFITH: Yes.

MYERS: But did you work in nursing throughout the whole of your professional life?

GRIFFITH: Yes. I just had a few years' break when my children were little.

MYERS: Right. For how many years were you working as a nurse, may I ask?

GRIFFITH: Well, I worked from 18 until 65 and I think I had probably about 10 years off when the children were little.

MYERS: So maybe about -- well, 45, but children during the course of that. And were about 43 years -- a 43-year period at the Countess of Chester or something like that?

GRIFFITH: No. I trained in London, worked in London, worked in Plymouth, and then worked up here.

MYERS: Do you recall when you started working at the Countess of Chester?

GRIFFITH: Oh... I've got it written down. I can't remember now.

I did two stints at the Countess. When we first moved up, I worked on the neonatal unit, then I got a position as a ward sister on the children's surgical unit. And then when I could go back to nursing when the kids were in school I went back on the neonatal unit.

MYERS: So throughout your career you had experience of general nursing and also nursing with babies; is that correct?

GRIFFITH: Yes. I hold two qualifications, general nursing and children's nursing, but I've always worked with children.

MYERS: Thank you. Whilst you were working at the Countess of Chester, as we've heard on this morning, for example, you worked alongside Lucy Letby, didn't you?

GRIFFITH: Yes.

MYERS: Did she seem to be knowledgeable in what she did from what you could tell?

GRIFFITH: Yes.

MYERS: And again, we're only asking your impression, did she appear to be caring in her dealings with the children she looked after?

GRIFFITH: Yes.

MYERS: And thorough?

GRIFFITH: Yes.

MYERS: Over the period we are looking at now, which is towards 2015 into 2016, was the unit manager Eirian Powell?

GRIFFITH: Yes.

MYERS: Amongst her roles, was she someone that people could approach to raise any issue of concern if necessary?

GRIFFITH: I could, certainly, yes.

MYERS: You could, all right. We've also encountered Yvonne Griffiths, who's another senior nurse on the unit at that time; is that right?

GRIFFITH: Yes.

MYERS: Did Yvonne Griffiths take responsibility for arranging the rota shifts?

GRIFFITH: Yes.

MYERS: Mrs Griffith, over this period, 2015 into 2016, certainly from your perspective, did there seem to be a very high admission rate?

GRIFFITH: Yes.

MYERS: Indeed, would you say perhaps it was the busiest you'd ever seen the unit in the time you'd worked there?

GRIFFITH: Yes.

MYERS: How did they deal with it in terms of staffing? Because you had the same core of staff, didn't you, so how did you deal with it in terms of staffing if it was so busy?

What did you unit have to do, if you can recall?

GRIFFITH: Call in extra staff.

MYERS: Did they use agency nurses to do that?

GRIFFITH: Very rarely.

MYERS: Ah. Did they use it over the period of 2015 into 2016?

GRIFFITH: I can't remember.

MYERS: Right. Did you also have to call in nurses from the children's ward more generally?

GRIFFITH: Occasionally, yes.

MYERS: Just one other bit of background I'd like to ask you about, if I may. Some of the babies who were on the unit could be there for many weeks, couldn't they?

GRIFFITH: Yes.

MYERS: Did it sometimes happen that nurses looking after the babies might become quite close with the families coming on to the unit?

GRIFFITH: Well, part of our job was to support the families, so yes.

MYERS: And sometimes did it happen that if a baby died, sadly, staff might attend the funeral in support of the parents?

GRIFFITH: Quite often the parents would want a representation from us, yes.

MYERS: We've just dealt with the case of [Baby I]. Do you remember [Baby I]?

GRIFFITH: Yes.

MYERS: When [Baby I] died, do you recall whether staff brought in cards for [Baby I]'s family?

GRIFFITH: I can't recall that, no.

MYERS: Do you recall staff going to the funeral?

GRIFFITH: I went.

MYERS: And other members of staff went as well?

GRIFFITH: Yes.

MYERS: That's what I wanted to ask you about background, Mrs Griffith. I'm going to ask a few questions about the morning.

Just dealing with [Baby J] in general, first of all, we've heard about how she had two stomas to help her, fitted before she came to the Countess of Chester, and you recall that, don't you?

GRIFFITH: Yes.

MYERS: When you were answering questions about this a little bit earlier, you said that you were familiar with stomas because of you being a general nurse; do you recall saying that?

GRIFFITH: Yes, a general children's nurse, yes.

MYERS: Was it unusual on the Countess of Chester neonatal unit to be dealing with stomas?

GRIFFITH: Yes.

MYERS: Do you recall whether there were any of the nursing staff there who'd never encountered stomas before?

GRIFFITH: I couldn't say.

MYERS: All right. Anyway, it was unusual?

GRIFFITH: Mm-hm.

MYERS: Thank you. We've been through your involvement with [Baby J] on the morning of 27 November. And obviously you're assisted by the notes, aren't you?

GRIFFITH: Yes.

MYERS: I just want to check we've got this right. There are four events with [Baby J] that morning; is that right?

GRIFFITH: Yes.

MYERS: There's the event which we've seen on the apnoea chart, marked at 4.40 in the morning, when she was with Nicola Dennison?

GRIFFITH: Yes.

MYERS: That's the first one, isn't it? That was in which nursery?

GRIFFITH: 4.

MYERS: Nursery 4. There's then a second event. Do you recall roughly the timing of the second event?

GRIFFITH: No.

MYERS: We saw it on the apnoea chart. I think it said 05.03 or something like that. Does that sound about right?

GRIFFITH: That sounds about right, yes.

MYERS: It followed the first one fairly quickly?

GRIFFITH: Yes.

MYERS: And that was also in nursery 2, wasn't it?

GRIFFITH: No, 4.

MYERS: Sorry, that was also in nursery 4. Then after that, [Baby J] was moved to nursery 2?

GRIFFITH: Yes.

MYERS: And you became her designated nurse?

GRIFFITH: Yes.

MYERS: Then we come to the third event, which is at 06.56 or thereabouts; is that correct?

GRIFFITH: If that's what the chart says, yes.

MYERS: And that relates to the time that you were there looking after the other baby in that room.

GRIFFITH: Yes.

MYERS: And then finally, there's the fourth event round about 07.40 on your notes?

GRIFFITH: Yes.

MYERS: Again, that was when you were there looking after her because of the earlier events?

GRIFFITH: Yes.

MYERS: I just want to ask something about the very first of those events. This is the event round about 4.40, something like that, Mrs Griffith. You became aware that first event, was it, because you heard the alarm go off; is that correct?

GRIFFITH: Yes.

MYERS: And when you heard that, did you then go to nursery 4 to find out what was happening?

GRIFFITH: Yes. The protocol is if your babies are stable and you can leave them, you should go to an alarm to assist.

MYERS: Yes. You are meant to help if you can, aren't you, and that's what you did?

GRIFFITH: Mm.

MYERS: And you found Nicola Dennison with [Baby J]; is that correct?

GRIFFITH: Yes.

MYERS: Do you recall whether anybody went for a doctor at that point or not?

GRIFFITH: I think a call would have been put out for a doctor, yes.

MYERS: Yes. From what you could tell, had [Baby J] desaturated or was desaturating at this point?

GRIFFITH: Um... Well, the monitor said she was. I don't know.

The doctors arrived at about the same time as I did, so I left the doctors to it.

MYERS: So you'd heard the alarm, you went to nursery 4, you found Nicola with [Baby J]?

GRIFFITH: Mm-hm.

MYERS: The alarm indicated there'd been a desaturation?

GRIFFITH: Mm.

MYERS: And it seems very soon after the point that you got there or round about that time, the doctor turned up.

Was it more than one doctor or just one from what you can remember?

GRIFFITH: I can't remember.

MR JUSTICE GOSS: What you said was:

"As I walked in the doctors arrived and I left because there were enough members of staff there."

GRIFFITH: Yes.

MR MYERS: Then after that, you went back to nursery 2?

GRIFFITH: 2.

MYERS: And the event that happened a little bit later, just after 5 o'clock, the second event, did you go back to nursery 4 when that happened or did you not go to nursery 4 when that happened?

GRIFFITH: I didn't go to nursery 4 that time, no.

MYERS: Right. Then after that, you became the designated nurse for [Baby J]?

GRIFFITH: Yes.

MR MYERS: Thank you very much, Mrs Griffith.

MR ASTBURY: Nothing arising. Does my Lord have any questions?

Questions from THE JUDGE

MR JUSTICE GOSS: No, I don't, thank you very much -- just one very small point. In the nursing note, you've written or the word has come out as "ridged" in relation to the event that you described when you said in fact it was rigid?

GRIFFITH: Yes.

MR JUSTICE GOSS: I just want to be clear. That's just a typing --

GRIFFITH: I'm sorry, I'm dyslexic.

MR JUSTICE GOSS: Don't worry about it at all. I just want to be clear so there was no confusion about it. You said she was rigid and that's what you remembered?

GRIFFITH: Yes.

MR JUSTICE GOSS: So we mustn't be misled in relation to that.

MR ASTBURY: Thank you, my Lord, for clarifying that. We don't think Nurse Griffith is coming back.

MR JUSTICE GOSS: All right. That then completes your evidence. Thank you very much for coming and giving it.

It's not anticipated that you're required again.

You haven't been told you're likely to be required again, I assume?

GRIFFITH: Not for this case, no.

MR JUSTICE GOSS: No, not for this case, no. All right.

MR ASTBURY: I think maybe. It's a possibility.

MR JUSTICE GOSS: What I'm going to say to you is what I say to people in your situation and I've been saying for weeks and weeks now: please don't talk to anyone about this case, anything to do with this case, anyone involved with this case, just in case you're coming back to give evidence again.

GRIFFITH: Right.

MR JUSTICE GOSS: I say this to everyone, it's part of our system. Thank you very much.

(The witness withdrew)

MR JUSTICE GOSS: We'll have our ten-minute break, members of the jury, now. Thank you very much.

(11.58 am)

(A short break)

(12.10 pm)

DR JOHN GIBBS (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: Dr Gibbs, could you state your full name for the transcript, please?

GIBBS: I'm John Gibbs.

DRIVER: Dr Gibbs, as I am sure you appreciate, you have been invited back this morning to provide evidence in relation to [Baby J], who was born at the Countess of Chester Hospital on 31 October 2015.

In preparation for your re-attendance at this trial, have you reminded yourself of the relevant parts of the clinical notes that were written up about [Baby J] during her time at Chester?

GIBBS: Yes.

DRIVER: Are you appraised of the antenatal history?

GIBBS: Yes.

DRIVER: And are you appraised of the circumstances immediately before and of [Baby J]'s birth?

GIBBS: Yes.

DRIVER: She was born at 32 weeks and 2 days' gestation, we understand. Have you reminded yourself of the treatment that she received in the first few hours of life?

GIBBS: Yes, I have.

DRIVER: What was the extent of the support that she required in the very first moments of her life?

GIBBS: I think briefly, [Baby J] needed some help with her breathing, as expected at 32 weeks, but the main problem was that she was producing bile out of her nasogastric tube and also spontaneously bringing up/regurgitating bile.

DRIVER: Based on your experience, what are those symptoms indicative of?

GIBBS: Well, if there is a reasonable amount, a repeated amount of bile, there may be an obstruction in the bowel.

DRIVER: Do the notes record that at 5 hours of age the nursing staff noted that bile was obtained from aspirating the nasogastric tube?

GIBBS: Yes.

DRIVER: And did that continue over the next few hours?

GIBBS: Yes.

DRIVER: And hence was she examined by registrar paediatric doctors?

GIBBS: Yes. I wasn't involved at that time, but I've read -- I knew about that history and I've reminded myself from the notes.

DRIVER: What was discovered and what were the consequences of those discoveries?

GIBBS: Well, an abdominal X-ray showed an unusual bowel gas pattern and [Baby J] was discussed with the surgeons at the Alder Hey Hospital in Liverpool and it was felt that the combination of features she was showing might indicate a bowel problem, there may be a bowel blockage, and the plan was for her to be transferred to Liverpool.

For that reason, she was electively planned to be ventilated to keep her stable to be transferred to Alder Hey Hospital.

DRIVER: So expand upon that. Was she sedated pre-transport?

GIBBS: I believe so, yes. That would normally be the case when electively intubating a baby, yes.

DRIVER: And intubated so as to enable mechanical ventilation, if required?

GIBBS: Yes.

DRIVER: If we just, with Mr Murphy's assistance, please, go to tile 6 to remind ourselves of the chronology.

Born at 15.00 hours on 31 October and tile 6 indicates a transfer at or around 04.00 hours on 1 November, that is to say within the first 24 hours of her life.

GIBBS: Yes.

DRIVER: We know that she eventually returned to the Countess of Chester Hospital, but before doing so, did she undergo abdominal surgery at Alder Hey?

GIBBS: Yes, she did.

DRIVER: What was the nature of her problem and what was done to address that problem?

GIBBS: Well, I believe the surgeons found a perforation, a hole, in part of the small bowel, towards the lower end of the small bowel, which is called the ileum, and there were a lot of adhesions, meaning strands of fibrous tissue, sticking the bowel together, which would suggest that that perforation had happened some time before. I'm not able to say exactly how long before, but I would have thought days or more before. So it may have happened before she was born, but not recognised until after she was born.

DRIVER: Thank you. Was that consistent with the antenatal history particular to [Baby J]?

GIBBS: Well, it is a complication. Bowel disturbances are a complication of twin-to-twin transfusion, the problems that affected [Baby J] and her, sadly, deceased twin.

DRIVER: What about the treatment that was provided to the twins and [Baby J]'s mother because of the twin-to-twin transfusion?

GIBBS: Yes, to try and prevent the swapping of blood between the two twins inside the womb, some of the blood vessels in the placenta connecting the two twin's placentas together with divided by laser. It is reported that that laser treatment can sometimes cause blood clots that can settle out in the bowel. But just having twin-to-twin transfusion can overload one twin and underload, take blood away, from the other twin and that can damage either twin's bowel.

DRIVER: So the problem discovered and addressed at Alder Hey by one route or another may very well have been the consequence of the twin-to-twin transfusion?

GIBBS: Yes.

DRIVER: Thank you. What was the surgical intervention? What did they do at Alder Hey?

GIBBS: The surgeons had to remove part of [Baby J]'s bowel, so that's part of her ileum. And looking at the surgical note, because I wasn't involved in that surgery at all, it was a difficult surgery. So they had to extend the abdominal wound for [Baby J], giving her quite a wide incision across her upper abdomen in order to divide the adhesions and try and free the bowel. And they had to create two stomas. I don't know if stomas have been explained to the court.

DRIVER: Please.

GIBBS: Right. Because part of the bowel had been damaged and the surgeons didn't want to just put the bowel back together again because it may well break down when [Baby J] started to feed, they had to remove the damaged part of the bowel. The bit of bowel above it was brought through the surface of the abdominal wall to create a little opening in the abdominal wall called a stoma that the bowel empties into. And then the lower part of the bowel, that empties down into the rectum eventually, that lower part of the small bowel was also brought out into a separate -- through a separate hole in the abdominal wall. So [Baby J] had two small holes in her abdominal wall through which her bowel was slightly protruding and those are called stomas.

DRIVER: Was the surgical plan to eventually rejoin those divided ends of the bowel?

GIBBS: Yes, after a few months, I believe.

DRIVER: If we could go, please, to tile 11, Mr Murphy, which informs us of [Baby J]'s return to Chester, which occurred on Tuesday, 10 November 2015, so therefore now at 11 days old and having spent most of her short life to date at Alder Hey.

On her return to Chester, what was the feeding regime in place for [Baby J]; do you recall?

GIBBS: Yes. Initially, [Baby J] was receiving her feed intravenously, so that was total parenteral nutrition, TPN. But the plan was to gradually increase the amount of milk feeding into her tummy through a nasogastric tube. But that food, instead of going through the entire length of the bowel and coming out at the anus as usual, would come out the -- it's called the proximal stoma, the stoma nearest the top end of the bowel. And that food was only partially digested, it hadn't gone all the way through the bowel, but it had been partially digested and partially absorbed into the bloodstream.

Because it was only partially digested -- and also that meant [Baby J] wouldn't have received full nutrition from that food -- the plan from the surgeons was to actually re-feed [Baby J] with that partially digested food as well as with more milk feeds. So it was called recycling of the feeds.

DRIVER: Thank you for that explanation. At this point in time, 10 November, on her return on Chester, what was the respiratory position for [Baby J]?

GIBBS: As far as I'm aware, she had no respiratory problems.

DRIVER: How was her progress upon return?

GIBBS: [Baby J] made steady and acceptable, encouraging progress in that the amount of milk feeds she received was steadily increased. The amount of TPN was reduced until it could be stopped altogether. And then she was only receiving milk feeds. Those milk feeds were from her mother, her mother's expressed breast milk, topped up where necessary by some donor breast milk, and it was all initially given through a nasogastric tube into [Baby J]'s tummy, but increasingly [Baby J] was able to take the breast milk feed through a bottle, she could suck it herself. So steadily, the amount of milk given to [Baby J] increased by bottles and decreased through the nasogastric tube until she could actually manage all bottles.

DRIVER: Over the next 2 weeks or more, did she remain stable?

GIBBS: Yes, she did. By the end of those 2.5 weeks or so she'd managed to transfer completely to bottle feeding, just managed that by that 2.5 weeks, remaining fine without any respiratory complications.

DRIVER: Thank you. What about the stoma? Did that cause any difficulties in this period of time?

GIBBS: It was a challenge managing [Baby J]'s stoma and the stoma was mainly managed by her nurses, the feeding regime, because we rarely have babies on our unit in Chester with a stoma needing recycling feeds. But because of that we had been advised by the specialist regional surgical team in Liverpool how to manage the feeds and we were invited -- either nurses could contact the nurses at the neonatal surgical unit in Liverpool or we doctors could contact the surgeons for advice on managing the stomas.

One of the problems experienced was that the stoma that was being used to recycle the feeds did become abraded, sort of bruised from time to time. It bled a little occasionally and even developed a small hole in the wall of the stoma. But all of that was discussed with the neonatal surgical team in Liverpool, who were satisfied with her progress.

DRIVER: Thank you. Could you expand or clarify the small hole in the stoma that you have referred to? Can you explain that to us?

GIBBS: Part of the wall of the stoma had broken down and there was a small hole linking the edge of the wall deeper into the intestine. It's called a fistula. But the surgeons weren't concerned because their plan was to unattach the stomas, tidy up the ends, which they always do, cut off the ends, and then join the two bits back together. So the fact the stomas were getting a little bit bruised from the constant treatment, touching them

and recycling the feeds didn't concern the surgeons as long as the bleeding wasn't excessive, and it never was, because they were going to remove those ends of bowels to reattach the bowel.

DRIVER: And these manifestations, the small amount of bleeding, the ulcer, the fistula (inaudible: coughing) considered exceptional to [Baby J] from the perspective of the Alder Hey surgical team?

GIBBS: No. And we had to be guided by their advice because they deal with babies with stomas fairly frequently.

DRIVER: (inaudible: coughing) move then, please, to the events of the 26th and 27 November.

At that point in time were you the consultant paediatrician on call covering the neonatal unit?

GIBBS: Yes, I was on call overnight, the 26th to 27 November 2015.

DRIVER: Prior to that, had you had any direct involvement with [Baby J]?

GIBBS: Not that I can recall, no -- and not that seems to have been recorded in the notes either.

DRIVER: Thank you. If we go, please, to tile 165. We see some clinical notes created by a junior colleague of yours, Dr Verghese. Dr Verghese will join us tomorrow. It was not possible to have him here today to deal with these things in a strictly chronological order.

These notes of events at 05.15 on the morning of 27 November, did you appraise yourself of the contents of these notes when a little later you attended upon [Baby J]?

GIBBS: Yes. Now, I can't remember now whether I read these notes when I saw [Baby J] a couple of hours later or whether I was told about these events. But I was aware that these events had taken place when I saw [Baby J] 2 hours later.

DRIVER: In summary, to help us understand the big picture, what was the nature of the information that was either provided to you orally or read in these notes?

GIBBS: That [Baby J] had been very stable, as she had been for weeks beforehand, until she suddenly dropped her oxygen levels on two occasions, a little bit before and a little bit after 5 o'clock in the morning, I think.

DRIVER: And at that point in time, immediately prior to the sudden drops in oxygen levels, was she breathing in air, normally?

GIBBS: Yes, she was breathing normally by herself in air.

DRIVER: How was the drop in blood oxygen level noted?

GIBBS: She had an oxygen saturation meter attached that had presumably had alarmed, but I wasn't there at that time.

DRIVER: We can see from Dr Verghese's note that on the first occasion, according to his record, the oxygen level dropped to 30%, and on the second occasion to 50%. How significant a drop in oxygen levels is that, Dr Gibbs?

GIBBS: Those are very significant drops. The manufacturers -- and there's different manufacturers of different oxygen saturation meters, but mostly they will claim that when an oxygen saturation meter drops to about 70% or below, it's no longer reliable. It does mean it's very low, but the difference between 30% and 40% is difficult to gauge. Anything below 70% is very low and alarmingly low, but the actual reading is no longer reliable below 70% on most machines.

DRIVER: I'm grateful.

MR JUSTICE GOSS: Is that literally alarmingly low? In other words, the alarm goes off?

GIBBS: It's both. Both, my Lord, yes.

MR DRIVER: What assistance was provided to [Baby J] in response to these drops?

GIBBS: She needed to be supported with her breathing, given oxygen through a Neopuff device.

DRIVER: We will hear from Dr Verghese tomorrow, I anticipate.

We note that the first "profound desat" occurred when she was being handled during stoma care of some kind?

GIBBS: "Stoma cares" it looks like, yes.

DRIVER: (Inaudible: no microphone). Thank you. But the second occurred at a point in time when she was not being handled?

GIBBS: That's what Dr Verghese has recorded, yes.

DRIVER: What's the potential significance and why is it noteworthy whether or not the baby was being handled?

GIBBS: I'm not sure because just being handled through stoma care should not cause oxygenation levels to drop in any case. So it's unclear why [Baby J]'s oxygenation level had dropped. If [Baby J] had been a premature baby with significant lung disease who was needing respiratory support and was needing extra oxygen, then sometimes just handling as part of normal care might cause a drop in oxygen levels. But [Baby J] was a little baby managing in air, without respiratory difficulties, so even though she first desaturated, dropped her oxygen, while her stoma care was taking place, it's still unclear why that should have precipitated a drop in oxygen level, but the second time it seemed to happen spontaneously. But neither is properly explained from what Dr Verghese has written.

DRIVER: This is of course now 27 November. She had been alive for 27 days and some hours. And for almost all of that time, the stomas had been in place. How frequently would a stoma care regime require handling to provide stoma care?

GIBBS: Because of the recycling feeds, I think several times a day. I must confess the nursing staff would know better because they undertook that stoma care, but frequently is the simple answer -- and every day.

DRIVER: Thank you. Could we go to tile 182, please, Mr Murphy, which records your swipe data entry at 06.34 on the 27th. Was that your arrival at the unit in response to a call or was that as part of your daily routine, as it were?

GIBBS: It's not part of my daily routine at 6.30 in the morning, no. I can't remember why I was on the unit at that time, but it wasn't for [Baby J] as far as I recall.

It must have been for another baby. I haven't had the opportunity to look at the notes of all the babies that are on the unit that night and to review them to try to determine why I was there at that time.

DRIVER: Thank you. But you're sure that it wasn't to attend upon [Baby J]?

GIBBS: Not as far as I can remember, no.

DRIVER: From reminding yourself of the notes, did [Baby J] remain stable in the two or so hours after the events that Dr Verghese recorded at 05.50?

GIBBS: As far as the notes record, yes.

DRIVER: If we could please go to tile 196, which records the time, at 06.56, of a recorded event involving [Baby J], that is a clinical event. At the next tile we'll see your clinical notes. Before looking at them, can you share with us your recollections of these events?

GIBBS: My recollection is mainly from having reviewed the notes. But [Baby J] again dropped her oxygenation level, but this time also dropped her heart rate, whereas the first time -- on the first two occasions Dr Verghese had attended earlier in the night she had dropped her oxygen levels alarmingly, but not dropped her heart rate much.

This time she dropped both her oxygen levels and her heart rate and was needing support from the nurses.

Now, I can't recall whether it was the nurses who called me over to [Baby J] or whether the alarm was going off from her oxygen saturation meter that alerted me to the problem. But I wasn't with [Baby J] when she first dropped her oxygen saturation level, but I came and assisted the nurses who were with her.

DRIVER: Before we go to the detail, can you assist us to better understand the significance of a drop in heart rate together with a drop in oxygen saturation levels?

GIBBS: Well, either is of concern and can cause serious problems to a baby if not addressed, but both occurring together is more concern than just one occurring by itself. There's uncertainty about one which comes first: a drop in oxygen level can lead to a drop in heart rate level, but a drop in heart rate level conversely can cause the oxygen level to drop. These had both dropped pretty quickly together as far as, I think, the nurses looking after her were concerned, but the nurses looking after her would need to answer that.

DRIVER: Thank you. Can we click on to tile 197, please, and bring up Dr Gibbs' notes.

07.35, is that the time of the writing of the note?

GIBBS: Yes, this is after the two events.

DRIVER: Which you have timed. Help us with that first sentence, please, if you would.

GIBBS: I wrote at 07.35 that there'd been two further episodes of sudden desats, that's dropping the oxygen level, and then in brackets "to unrecordable levels" -- the first one was at 06.56, so 4 minutes to 7, and then the second one was about 28 minutes

later 07.24. I put "plus bradycardia", so that means [Baby J] dropped her heart rate as well as her oxygen levels.

DRIVER: Thank you. You informed us a little earlier this morning about the unreliability of saturation levels below a certain threshold. Can you expand, please, upon the fact that her sudden desats fell to unrecordable levels?

GIBBS: This just means it was well below 70%. When I say unreliable, the oxygen levels are still reliable in that they are abnormally very low but the exact level isn't meant to be reliable once it drops below 70%. The machines are definitely detecting a very low -- a worryingly low level of oxygen.

DRIVER: On both of these occasions, as you indicated earlier, combined with bradycardia?

GIBBS: Yes.

DRIVER: Your next sentence, please?

GIBBS: "Both associated with clenching of hands, stiff limbs (upper greater than lower) and, on the second occasion, eyes deviated to the left."

DRIVER: Can you explain the significance of those observations, please?

GIBBS: This is describing a seizure that [Baby J] was displaying, two seizures. She displayed it with each of the episodes, the one at just before 7 o'clock and the one at 7.24. Her limbs were stiff, abnormally stiff, and her hands were clenched. It was on the second occasion that the eyes deviated to one side, which is a sign of a seizure, particularly in neonatal babies.

DRIVER: (Inaudible: no microphone) it's my fault, I have led you to deal with these events almost as one. Let's break them up and deal with them chronologically so that we get the full narrative history here.

You were on the unit at the time of the first of these episodes --

GIBBS: Yes. But I wasn't with [Baby J] as far as I recall.

DRIVER: You were not with [Baby J] but you do recall going to [Baby J] but you can't recall whether that was in response to a verbal request from a nurse or in response to the sound of the monitoring alarms?

GIBBS: That's correct. But more likely someone had called for help.

DRIVER: And what was happening when you first arrived at [Baby J]'s cot side?

GIBBS: Well, her oxygen levels were low, but as I say, unrecordably low. The most notable thing with [Baby J] she was abnormally stiff with all her limbs held out stiffly and hands clenched. She was being given respiratory support with a Neopuff. I can't remember who was giving that, though. It wasn't me and I was arriving at that time.

DRIVER: Can you remember which members of staff were at [Baby J]'s cot side at this point?

GIBBS: Well, partly my memory is refreshed by reviewing the notes, and it was Staff Nurse Griffith and Staff Nurse Letby.

DRIVER: Did you immediately provide assistance?

GIBBS: Yes.

DRIVER: What did you do? What assistance did you give?

GIBBS: I can't remember exactly what I did and it doesn't say here what I did. Fortunately, [Baby J] did not need cardiac compressions, so her heart rate must have been improving and she didn't need any medication immediately at that stage. So I was observing her and trying to determine what had happened to cause her to drop her oxygen levels and then develop a seizure.

DRIVER: For the sake of clarity, could you describe the manifestations of the seizure, the symptoms displayed during the first of the two episodes?

GIBBS: [Baby J]'s four limbs being stiffly extended with her hands clenched, so fisting her hands.

DRIVER: What is that indicative of?

GIBBS: Well, she's displaying a seizure.

DRIVER: And how did you respond to that display?

GIBBS: Well, fortunately it began to resolve. After about -- I've recorded here after about 10 minutes, which is a reasonably long seizure.

DRIVER: Looking at your note, the stiffness took 10 minutes to settle on the first occasion?

GIBBS: Yes.

DRIVER: Let's stay with the first occasion. So after about 10 minutes and a passing of the stiffness, what if any care or treatment did you provide to [Baby J] at this point in time? We're now about 7.06 or thereabouts.

GIBBS: Right. She was still requiring the Neopuff respiratory support. I don't think I'd taken it over on this first occasion, one of the nurses was still giving her respiratory support. But the concern then was to investigate why she'd had this seizure and why she'd dropped her oxygen levels.

DRIVER: And as to the duration of the respiratory support, if we look further down in your next note, does it read:

"Needed Neopuff ventilation for 20 minutes on the first occasion"?

GIBBS: Yes. I think one of the nurses recorded 16 minutes, but somewhere between 16 and 20 minutes.

DRIVER: Thank you. And your next note describes the perfusion?

GIBBS: Yes. During that first episode, while she was having her seizure, the perfusion was poor and that would have meant she was pale. I haven't recorded any more details than that. So she was given 20ml per kilogram, which for her weight then would have been about 30-35ml, of saline intravenously to improve her circulation.

DRIVER: Did it appear to have a positive effect?

GIBBS: Yes.

DRIVER: Did that effectively conclude the first episode or are there any other features about that first episode that you regard as important?

GIBBS: No, it had stopped. The seizure had stopped after about 10 minutes, providing [Baby J] was -- assisted ventilation with a Neopuff continued for about another 6 to 10 minutes after that. But by that stage her circulation was back to normal and she was breathing again by herself and her oxygen levels had returned back to normal, well above 90%. But there wasn't too much time before the second event happened.

DRIVER: And in between events, did you remain with [Baby J] or did you attend to some other responsibilities or can't you recall?

GIBBS: That I'm afraid I can't recall. But it is important because if I was still with [Baby J] then I was with her at the time the second event started. I wasn't there when the first event started, which is why I have tried to remember whether I was still with her and I can't remember that.

I think it more likely than not that I had moved away from her briefly because having suffered a seizure, there are various conditions that can cause a seizure that we could rule out quite quickly on [Baby J]. It depended what her recent blood tests had shown. I think it's likely that I'd gone look at her results, which are on the computers but not inside the outside nursery rooms. So I think I probably was looking at results on the computer in between these two episodes, but I was close by to [Baby J]'s nursery at that time. I may have gone to talk to Dr Verghese as well. But I didn't record that in the notes and I can't remember. But events quickly moved on to the second event.

DRIVER: Thank you. We'll return to the blood results a little later. Let's go to the second event now, which your note here times at 07.24 hours.

GIBBS: Yes.

DRIVER: Tell us about that, please.

GIBBS: Well, again, [Baby J] dropped her oxygen level and her heart rate and needed support with her breathing, just as in the first episode, less than half an hour earlier.

Now, I had helped to give her the Neopuff ventilation for that second episode, which is why I would have been nearby, but as I've said, I cannot remember whether I was still with her when it began. I think more likely than not I wasn't, but I can't be sure. I supported her with the breathing.

Her circulation did not deteriorate as it had on the first occasion, so she didn't need any more intravenous fluid, and the episode was much shorter. She did display again stiffness of all her limbs, clenching of her hands, but on this second occasion her eyes deviated towards the left. That was all part of a seizure but it stopped after 3 or 4 minutes.

DRIVER: Just to break that down, is it your evidence that you recall Neopuffing [Baby J] during this episode and from that memory you conclude that you must have been close at hand when it began?

GIBBS: Yes. When I say I recall, I'm recorded in the notes as giving the Neopuff. And I cannot remember whether I was with her when this episode started or whether I was nearby.

DRIVER: Thank you. Let's go to your note then. So (inaudible: no microphone) times the duration of the stiffness, we've looked at episode 1, 10 minutes to settle and you noted 3 to 4 minutes on the second occasion?

GIBBS: Yes.

DRIVER: Your note tells us how long she required ventilation for on the first occasion. What about the second?

GIBBS: Five minutes on the second occasion, so much shorter.

DRIVER: Thank you. Her perfusion on the second occasion?

GIBBS: It was likely to have been normal because she didn't require any intervention. But I can't remember now back 7 years ago exactly what her perfusion was like, except I've recorded that her perfusion was fine after these two episodes had finished. So after the second episode, her perfusion was normal.

DRIVER: As with the first episode, was there bradycardia evident at this point?

GIBBS: I think -- it was recorded. I can't remember now seeing the number myself of the heart rate.

DRIVER: Turn to the note. Towards the middle of your note there's a sentence that begins with the words "air entry equal".

GIBBS: So air entry was equal, so listening in to [Baby J]'s chest there was air entry equal on either side and her abdomen was not distended. Shall I continue?

DRIVER: Please.

GIBBS: "Post each episode [so after each episode] perfusion satisfactory."

And I describe how I tell that because her capillary refill time was 1 to 2 seconds, which means normal circulation. And even more so, I put it in brackets underneath that, central and peripheral, because you can check a central circulation by pressing on the chest or the centre part of the body and yet you might still have some reduced circulation only manifest if you press on a peripheral part of the body like the hand or foot.

But I say here the circulation was fine because both central and peripheral capillary refill times were normal. But that's after both episodes had finished and she'd needed -- [Baby J] had needed some saline bolus of fluid during the first episode.

DRIVER: Why did you consider it important to gauge her circulation through that method?

GIBBS: Well, firstly to see if she'd recovered from these two episodes, but secondly, there are a lot of causes why the oxygen level might drop. There are various causes why a baby may exhibit a seizure and some of those are associated with very poor perfusion. So not enough blood getting to the brain can lead to a seizure. But in [Baby J] her perfusion had recovered by the end of these two episodes.

DRIVER: Thus did you rule out that as the potential cause of these seizures in this baby?

GIBBS: I couldn't say ruled out but it seemed quite unlikely.

DRIVER: Thank you. Let's return to your note. In the sub-paragraph that begins "blood glucose"?

GIBBS: Yes, that's an abbreviation for blood. Blood glucose 9.

That's moderately high. The blood glucose level should normally be roughly between 4 and 7. When someone is stressed that does tend to push up the blood sugar level so the fact this level was slightly high is -- it's likely that [Baby J] had been stressed, which is exactly what you'd expect if she had just had two seizures. The importance of the blood sugar level being high is a very low blood sugar level can cause a seizure, but the fact the level was 9 during the second episode meant it was very unlikely to have been low around that time, so was not the cause of the seizure.

DRIVER: Thank you. Could you take us through your next entry and the significance of it, please?

GIBBS: Right. The line begins:

"NB [which means 'note well'] the electrolytes were normal on the ABG [an abbreviation for blood gas] earlier in the night."

I do comment although the potassium level, the K⁺ is potassium level, was 3, that's lower end, just below the lower end of normal for potassium.

I also mention that the calcium level -- the Ca²⁺ is the calcium level -- had been normal on the bloods taken 3 days earlier or

2.5 days earlier, 24/11/15. The significance of this is that a very low blood sodium level or a very low blood calcium level can cause seizures and that does happen in babies for various reasons. It's not common.

But here we were looking for reasons why [Baby J] had displayed these two seizures that I'd witnessed and the seizures were not explained by a low blood glucose, because it wasn't low, nor were her seizures explained by abnormal electrolyte levels because they weren't abnormal. The potassium being a little low does not cause seizures.

DRIVER: Are these the blood results that you told us about earlier that you at some point checked?

GIBBS: Yes.

DRIVER: While we're on that topic, can we go to tile 200, please (inaudible: no microphone) document there. Have you endorsed any part of that document?

GIBBS: Yes. I've written that prescription there.

DRIVER: You say that prescription singular. There seem to be two separate endorsements there; do you agree?

GIBBS: Yes, but the bottom one is crossed out, so I don't know if it was given.

DRIVER: Look at the times to the right of the document, the times when they were started. The upper endorsement seems to be 07.20 and the lower one at 07.09.

GIBBS: Yes. That's correct. I'm just a little confused why they're given in reverse order, but anyway, the bottom one is the saline. So the NaCl is the saline, sodium chloride. This was the bolus that was given during that first seizure. I mentioned in my notes earlier, it's 20ml per kilogram and I estimated that was about 30-35ml, it's not, it was 38ml from [Baby J]'s weight at that time. The nurses record it was given at 07.09.

DRIVER: So although a line has been (inaudible: no microphone) dashed through that endorsement, you recall, do you, and your clinical notes confirm, that that bolus of saline was given?

GIBBS: Yes, and it's signed for by the nurses who had given it.

MR JUSTICE GOSS: Well, I think it would be helpful to know what is on that form when you -- what is your writing and the timing of your writing compared to the other writing.

Taking the first entry, the 10% glucose, you initially wrote, it seems, 11.9 volume, put a line through that. Then the rate/duration -- 11.9ml per hour is that?

GIBBS: Yes.

MR JUSTICE GOSS: Going along to the right, route, IV, intravenous?

GIBBS: Yes.

MR JUSTICE GOSS: That's your signature, is it?

GIBBS: Yes.

MR JUSTICE GOSS: What happens thereafter? The next column is to the right.

GIBBS: Nurses then administer the fluid and they sign for it when they administer it. Those columns to the right, "given by" and "time and date started", are filled in by the nursing staff.

MR JUSTICE GOSS: So you have no part in that?

GIBBS: No, I didn't fill that in.

MR JUSTICE GOSS: And then below, the next entry, same again, is it --

GIBBS: Yes.

MR JUSTICE GOSS: -- up to your signature under the "prescribed by" --

GIBBS: Exactly. I'd prescribed it. The nurses have then signed for it. In fact, the nurse's signature is Staff Nurse Griffith for both of those.

MR DRIVER: (Inaudible: no microphone) the route and your signature appears to be dashed out there.

GIBBS: Yes.

DRIVER: Did you do that?

GIBBS: I can't remember. But the -- looking at the width of the line, it looks like the same pen that had written the prescription, so likely me.

DRIVER: But was it prescribed?

GIBBS: It was prescribed and it was given because it's signed for by the nurses with the time it was given during that first seizure.

DRIVER: Can you explain why in those circumstances then the record has been crossed through?

GIBBS: No, I can't remember why I would have crossed it through, but one possible reason is that it wouldn't be given again because that 10% glucose above it is to be given continuously. So to make sure the saline wasn't given repeatedly, it has been crossed through, probably after it had been given.

DRIVER: To avoid a reader taking that as an instruction --

GIBBS: Yes.

DRIVER: -- to repeat?

GIBBS: Yes, because this is an infusion chart, so these are fluids that are constantly running in a baby and that was just a one-off saline, which is probably why I crossed it out after it had been given. If it had been crossed out before it had been given, it shouldn't have been given.

DRIVER: And it was (inaudible: no microphone)?

GIBBS: It was given, yes. The glucose was because after these two seizures, the decision was. While we investigated [Baby J] for the cause of her seizures and treated her for possible causes, that she shouldn't be fed by milk into her tummy until we were sure that she was settled and fully recovered, so instead she was treated -- given nutrition with glucose running constantly at 11.9ml an hour.

DRIVER: Thank you. Could we return to Dr Gibbs' note, which was housed amongst other places behind tile 197, Mr Murphy.

We'd reached the point where you recorded the blood glucose, et cetera --

GIBBS: Yes.

DRIVER: -- checked on the electrolytes et cetera and an earlier blood test results. Then you moved to the impression --

GIBBS: Yes.

DRIVER: -- that had been left with you. You've more than once told us that it appeared to be a pair of seizures.

GIBBS: Yes.

DRIVER: And that's the simple note you've made there.

GIBBS: That's right, yes.

DRIVER: Was that an impression made by the stiffness of the limbs, the eyes (overspeaking) --

GIBBS: Yes.

DRIVER: Was there any record of [Baby J] ever having presented with seizures prior to this pair of events?

GIBBS: Not that I was aware of and not that I can find reviewing her medical notes.

DRIVER: What, if any, treatment did you prescribe to address the seizures at this point in time?

GIBBS: Well, several treatments. Because the important aim for [Baby J] was to try and determine why she had had that seizure. That's why in the next line down it's "[query] septic": had infection caused her to suddenly deteriorate and cause her to have seizures? And the main infection that causes seizures is meningitis, but when young babies develop infection anywhere in the body, it can spread rapidly into the bloodstream, which is septicaemia, and rapidly into the brain. So infection(?) can be associated with meningitis as well as infection elsewhere in the body.

So I was wondering whether infection had caused her seizure.

DRIVER: We glanced at Dr Verghese's note and we will look at it in more detail with Dr Verghese, but as a matter of fact had Dr Verghese started antibiotics?

GIBBS: I'm not sure. I thought he had but looking through the notes, his intention was to start antibiotics after the first two desaturation episodes because in young babies who are showing -- misbehaving in any way, so showing (sic) concern -- and particularly dropping oxygen level is causing concern -- we have to think, could infection be causing this?

The test for infection means looking at the white cell count in the blood, looking at the C-reactive protein, the CRP, in the blood and taking blood cultures but those results are often only available over the next few days. Blood cultures take a few days to be processed in the laboratory to know if bacteria are growing. Often, the white cell count and the CRP only rise over the few days after the infection has started, not before or at

the beginning of an infection. So it takes -- it's a retrospective diagnosis often. But we can't wait for those tests before treating, which is why we have to give antibiotics early.

I think Dr Verghese had started antibiotics, but I said he needed -- [Baby J] needed antibiotics as well so I'm not sure whether I changed the antibiotics or whether this was the first time antibiotics were given to [Baby J] that night.

DRIVER: We can see the antibiotics that you prescribed as part of that plan. Was that to cover a wide range of organisms?

GIBBS: Yes, including meningitis; that's the cefotaxime and teicoplanin.

DRIVER: We digressed a little. What is it that you prescribed to address the seizures?

GIBBS: I am sorry for not answering that straightaway, but you're right, trying to treat the infection is treating the seizures as well. But a very specific treatment for seizures we gave to [Baby J] -- I decided [Baby J] needed was phenobarbitone, an anticonvulsant medication.

That's because she'd had two seizures in a short space of time, so to prevent her continue to have repeated seizures affecting her oxygen levels and breathing.

DRIVER: You have told us that on your reading of her notes she had never presented with seizures prior to this morning.

What about post 27 November? Did [Baby J] ever present with seizures again?

GIBBS: No. She had no convulsive -- this was a convulsive seizure or stiffening seizure that she exhibited this night. She never had it again to my knowledge and I followed [Baby J] up in clinic after she'd left the neonatal unit until she was 19 months old. I can't say after 19 months whether she's ever had any seizures.

I ought to add though, when we were following up in clinic, at around a year of age, her parents had reported she was showing brief blanking episodes, but those were very likely to have been inattention episodes and not any form of epilepsy. There is a childhood form of epilepsy that just manifests by blanking episodes, but [Baby J] had inattention, not blanking epilepsy, at about a year of age.

DRIVER: So the phenobarbitone that was prescribed to address these convulsive seizures at this point in time, was that

provided to [Baby J] on a continuing basis or just on 27 November?

GIBBS: It was just given on 27 November. The initial dose of phenobarbitone lasts 12 to 24 hours and should prevent further seizures. Other colleagues of mine looking after [Baby J] after that, because she'd been so stable and settled so well after these episodes, decided not to continue the phenobarbitone, although they would have done if she then developed further seizures, but she didn't have any further seizures.

DRIVER: So whatever caused the seizures on 27 November did not return?

GIBBS: That's correct.

DRIVER: But you can't be certain as to what was the cause of the seizures?

GIBBS: No. We were looking for rare causes. Along that list of the plan at the bottom is ultrasound of the head and that's just in case [Baby J] had suffered a bleed in her head. Premature babies can suffer cerebral bleeds usually in the first few week of life, the first few days. [Baby J] was now a month old so unlikely at this stage, but she had the ultrasound scan and in fact all these investigations did not reveal any cause for her seizures.

DRIVER: We'll return to the seizures shortly, but absent from this plan is any, it would seem, suggested intubation or mechanical ventilation. Did you consider that?

GIBBS: It always needs -- yes, I must have considered it. It always needs considering when a child has needed support for their ventilation and whilst I had been in attendance with [Baby J] she'd needed Neopuffing twice, 20 minutes the first time roughly, 5 minutes roughly the second time. But she recovered so well afterwards and was so stable, in fact was in air afterwards, not needing any additional oxygen, that I didn't feel that she needed to be intubated and provided with continuing ventilation.

MR DRIVER: Thank you.

My Lord, I estimate I'll be about another 10 or 15 minutes with Dr Gibbs.

MR JUSTICE GOSS: We'll break off there because I'm sure that Mr Myers will have questions anyway. It's a little bit later than normal, 1.05, so we'll break off until 2.05, please, members of the jury.

(In the absence of the jury)

MR JUSTICE GOSS: You're very familiar with your obligations, Dr Gibbs, as a witness. 2.05. Thank you very much.

(1.06 pm)

(The short adjournment)

(2.05 pm)

MR DRIVER: Dr Gibbs, before lunch you told us about two episodes of sudden deterioration at 06.56 and 07.24 on 27 November 2015, which were characterised by marked drops in blood oxygen level and heart rate and the exhibiting of the signs of a seizure or fit.

GIBBS: Yes.

DRIVER: What, if any, investigations did you undertake or cause to be undertaken to try and discover the cause of these seizures?

GIBBS: Well, the blood sugar level was checked during the second seizure and was found to be high, whereas a very low blood sugar can cause seizures, so that wasn't the cause. The electrolytes, having been checked recently, were normal. They were checked later on in the day and were found to still be normal.

As I've mentioned, it's not possible to know immediately whether a baby is infected, but it's important to treat for possible infection, so those tests for infection were undertaken and treatment was started for infection.

Then it was planned to undertake a brain scan just in case, a relatively unlikely possibility, [Baby J] had suffered from a haemorrhage or other problem in her brain causing her seizure.

Also the plan was to X-ray [Baby J]'s tummy to see if that showed any changes or any concern -- and having stomas, having a bowel perforation, like [Baby J] had had at the beginning of her life, in themselves do not cause seizures, but if there had been a complication giving rise to infection, like peritonitis or infection spreading elsewhere, as I said before an infection, particularly if it spreads to the brain, can cause seizures, which is why, indirectly, it was important to investigate her bowel condition.

DRIVER: Mr Murphy, can you take us to tile 170, please? It records the collection of a pathology specimen at 06.09 on 27

November 2015. If we can click on to the underlying document, please. What does this record, Dr Gibbs?

GIBBS: It shows that the specimen collected at the time, as you say, after 5 days showed no bacterial growth. That blood sample, it says:

"Blood culture central line."

So it was taken out of a central line that [Baby J] had -- I don't know if the central line has been discussed in court.

DRIVER: We've watched an animation this morning of a Broviac line.

GIBBS: Yes, she had a Broviac line in and that's where the sample was taken from. Given the timing of the specimen, it was before the two seizures that I saw so this investigation must have been arranged by Dr Verghese after the two episodes he had witnessed.

DRIVER: Thank you for that. Could we go to tile 171 or the document that underpins it, please, Mr Murphy.

Can you help us with this, please?

GIBBS: Right. This is a blood specimen result and it was collected on that same night, 27/11/15, and again at the same time, it's recorded as having been collected, that's at 06.09, so prior -- just under an hour prior to the two seizures that I witnessed, but maybe about an hour after the two episodes Dr Verghese had recorded.

If you look down the left-hand side, ordered, it shows U&Es, LFTs, calcium profile, CRP, full blood count. Those were the tests that were requested and then in the long columns are the results of those tests.

DRIVER: And which, if any (overspeaking) --

GIBBS: Of note, the one at the top, a sodium of 138, that's normal, because a very low sodium is well below 130 can cause seizures, but that wasn't the cause of her seizures.

The calcium level, about five down, six down, is 2.29, within the normal range.

The CRP level, halfway down the list, is less than 1, but it's important to repeat that over the next day or two because this is a sign of infection or possible infection if it rises well above 10 and it can take a day or two to rise. So at this stage

it wasn't elevated and indeed it didn't rise over the next couple of days looking at [Baby J]'s notes.

Her full blood count there, the WBC, is also normal at 8.1 and again it did not rise over the next few days suggesting there was no infection causing [Baby J]'s seizures.

DRIVER: For the sake of completeness if we could go to tile 351, please.

GIBBS: Sorry, just before we leave this tile, just below the arrow now, the second one down, Hb is the haemoglobin level. It is rather low at 78. Indeed, I believe -- I wasn't involved then -- later on in that day it was decided to give [Baby J] a blood transfusion.

DRIVER: What, (inaudible: no microphone) context of investigating (inaudible) cause of seizures what's the significance of that low count?

GIBBS: The low haemoglobin would not be a cause of seizures no.

DRIVER: Thank you. Can we go to tile 351 then? This takes us to a specimen collected at 16.00 on 28 November, the following day. Is that of any significance here?

GIBBS: It's called a central line site swab. It shows some bacteria called Klebsiella, but that's on the outside of the Broviac line. That isn't significant at this stage.

If a Broviac line consistently shows bacteria there's a chance those bacteria may spread down the line and into the bloodstream. But the way the line is inserted, and you say you have seen a video, the surgeons tunnel the line under the skin for quite a few centimetres before it comes out of the neck or chest wall. And the idea that tunnelling is to try and prevent bacteria moving along the line into the bloodstream. It would only be significant if this bacteria had been found in [Baby J]'s blood and you would have expected a high CRP and white cell count in association with that. So this isn't anything related to the cause of her seizures.

DRIVER: Thank you. So blood tests were undertaken as part of an investigation into the cause of the seizure and yielded no indicators?

GIBBS: No.

DRIVER: There was an abdominal ultrasound; is that right?

GIBBS: That's correct, later on, during the day of the 27th and that was normal.

DRIVER: And that was an investigation into whether there was a further perforation of the bowel --

GIBBS: Perforation or an abscess having collected in the abdomen but none was seen.

DRIVER: The seizures -- she exhibited signs of seizure at the time of the sudden deteriorations. Might there be a causal relationship between deteriorations and the seizure?

GIBBS: Yes. It is a chicken-and-egg situation: did the seizure cause a deterioration, in other words if you develop a seizure it will affect your breathing. If you go stiff, as [Baby J] was, she was persistently stiff for several minutes on each occasion, that can drop the blood oxygen level. So the low blood oxygen may be a consequence of the seizure.

Against that in [Baby J]'s case is, so far as I can ascertain from the notes and as far as I can remember, the initiating concern was the drop in oxygen. So the oxygen drop happened very early on, not after the seizure had started.

And also, having not found any cause for the seizure, it's less likely the seizure led to the oxygen drop but more likely, having found no other cause for the seizure, that a lack of oxygen to the brain had actually caused the seizure.

DRIVER: So the oxygen drop could, and you think probably did, cause the seizure?

GIBBS: That's a distinct possibility since we found no other cause but we certainly documented very low oxygen levels in [Baby J] associated with a seizure.

DRIVER: And were you able to identify the cause of the oxygen drop?

GIBBS: No, because up until then [Baby J] had had no breathing difficulties -- well, in the preceding few weeks.

DRIVER: And what about post 27 November?

GIBBS: I believe over the next few weeks, and certainly the following days, she had no breathing difficulties.

Things changed a little 2.5 weeks later but I wasn't involved then and others would presumably be able to provide information to the court about the episode a couple of weeks later.

DRIVER: (Inaudible) referring to December 2015 --

GIBBS: Yes.

DRIVER: -- which resulted in [Baby J] being moved to Manchester?

GIBBS: Yes. But after the two seizures I witnessed on the night of the 27th, up until that episode, that deterioration 2.5 weeks later, [Baby J] had no breathing difficulties as far as I recall.

DRIVER: You mentioned earlier that notwithstanding the fact that she was moved to Manchester and ultimately Alder Hey, she did return to your care as part of your paediatric outpatient clinic; is that correct?

GIBBS: Yes.

DRIVER: It's a matter of record and I'm not sure it's not controversial, did you see her four times between April 2016 and June 2017?

GIBBS: She attended my clinic four times and I saw her on three of those occasions.

DRIVER: Having considered the notes from those visits and the letters that you dictated, how had she progressed by that stage?

GIBBS: She was managing very well. She was growing well at that stage and developing normally.

DRIVER: There was, I think you told us earlier, some sensitivity to cow's milk; is that right?

GIBBS: Yes. All the time she was on the neonatal unit -- I'm not sure at the very end when she had moved to Manchester Children's and then Alder Hey, but most of the time at the Countess of Chester she was taking her mother's breast milk.

When she then transferred to cow's milk, which is probably after she had gone home, but I'm not sure. At some stage she swapped to cow's milk and became sensitive to it and actually briefly attended at the Countess of Chester with blood in her stool, thought to be due to sensitivity to cow's milk protein, so she had to have a low allergy milk.

DRIVER: Was that problem effectively managed?

GIBBS: Yes. Most children grow out of it, but it takes a few years to grow out of cow's milk intolerance.

DRIVER: When considering [Baby J] as an outpatient, what about the bowel perforation and any consequences thereof, how did that progress?

GIBBS: The only abnormality related to her bowel that I could notice, both from my examination and from talking to her parents, was the fact she had a prominent scar on her abdomen. Otherwise she was managing very well with her bowels. The fact she was growing well was a good indication her bowels were functioning well.

DRIVER: Ultimately, did you discharge her as an outpatient when she was approximately 19 months old?

GIBBS: Yes.

DRIVER: And at that stage was she a well little girl?

GIBBS: Yes.

MR DRIVER: Could you remain there, please?

Cross-examination by MR MYERS

MR MYERS: I want to ask you first about the two incidents recorded in the clinical notes at 05.15, the first two incidents. Are you clear about what I am referring to?

GIBBS: Yes, the one Dr Verghese recorded.

MYERS: That's right, yes. In fact, just so there can be no doubt, could we put up tile 165, please? Pop behind that and we can be clear what it says.

We have two profound desaturations recorded in the note made at 05.15; do you see that?

GIBBS: Yes.

MYERS: From your assessment of the notes and the clinical history, [Baby J] appears to have been doing well before these incidents?

GIBBS: Yes.

MYERS: And you've looked at her breathing and you've looked at her weight and you haven't identified any complication that was playing a part in her condition prior to this; is that right?

GIBBS: As far as the weight is concerned, [Baby J] was gaining weight relatively slowly. But we had addressed that by increasing the volume of her feeds and adding fortifier, a sort of calorie supplement, to her feed. That's not surprising in a baby who had her bowel problems and was having this recycling of feeds.

MYERS: She appears to have been stable before this happened?

GIBBS: Yes, but gaining weight slowly.

MYERS: Gaining weight slowly. And certainly to you it was unclear why this should have happened; is that fair to say?

GIBBS: Yes.

MYERS: As a general matter, is it possible for there to be a sudden desaturation like the one or the ones we're looking at here if an infection is developing?

GIBBS: That can be one way that a baby presents with infection, yes.

MYERS: Although, so there's no misunderstanding, your assessment of the evidence is that there's no particular sign of any infection that was identified afterwards; is that right?

GIBBS: That's correct but, as I think I mentioned, both Dr Verghese and then later myself began treatment for [Baby J] for infection in case there might have been infection. So we were not certain that night that she wasn't developing an infection. Subsequent tests and the passage of time told us she didn't have an infection.

MYERS: If a baby is treated with antibiotics for infection very rapidly, might that mean that subsequently no signs of infection are apparent?

GIBBS: As far as I am aware, that's very unusual. Antibiotics don't work instantly, they take several days to have a full effect, even when you have chosen the correct antibiotic, which is partly guesswork, but educated guesswork, for what you think might be causing the infection. You would still expect a significant rise in the CRP blood level and in the white cell count.

MYERS: So if we discount infection, then these desaturations remain unexplained so far as you can determine?

GIBBS: Yes.

MYERS: I'm going to ask you now just about the part of the event involving [Baby J] where you were on the unit, round about or just shortly before 7 o'clock.

GIBBS: Yes.

MYERS: You have told us the nursing staff you recall being present when you attended the first one of the incidents, the second pair of incidents.

GIBBS: I've had to rely on the notes to be sure who was there.

I first did the statement on [Baby J] 3 years after this event and I couldn't remember all the details myself.

MYERS: No, well, no one is expecting you to remember all the details going back that far. You remember Nurse Griffith; is that correct?

GIBBS: Yes.

MYERS: And you remember Nurse Letby?

GIBBS: Yes.

MYERS: Do you remember Nurse Dennison also being present at some point?

GIBBS: She was around then, yes.

MYERS: All right?

GIBBS: And at that stage [Baby J] was in the outside nurseries where the nursery nurses like Nurse Dennison cared for the babies there.

MYERS: Right. When [Baby J] had the final deterioration, what you might think of as the fourth in the course of that morning, so we have two that we have seen on Dr Verghese's note and then the two we've seen on your note, we see that you were involved in providing Neopuff --

GIBBS: Yes.

MYERS: -- to [Baby J], don't we? And just so we can be quite clear, your recollection is you might have been in the nursery, you might not, you would have thought you probably would be typing up notes on the computer outside the nursery?

GIBBS: Not typing, looking for results on the computer --

MYERS: All right.

GIBBS: -- the results we've talked about, the calcium, the recent electrolytes and so on.

MYERS: But involved in the computer outside the nursery?

GIBBS: I was nearby, but I can't remember if I was with [Baby J] or nearby when she had that fourth episode.

MYERS: So in fairness that's something you can't be absolutely sure about one way or another?

GIBBS: That's correct.

MYERS: In dealing with the question of the seizures that you've described, the two times you were there, Dr Gibbs, can infection be a cause of seizure?

GIBBS: Yes, but usually when it involves meningitis irritating the brain.

MYERS: We notice in your note you have "[query] septic", haven't you, next to it when you look at the seizure?

GIBBS: Yes, for any baby that deteriorates, sepsis is usually a possibility that has to be considered.

MYERS: And you were asked the question about when you look at seizure and breathing difficulties which way round they go and I think you began by saying it's a slightly chicken-and-egg situation.

GIBBS: That's correct, yes.

MYERS: It's not possible to say for sure, is this right, whether the seizure caused breathing difficulties or breathing difficulties caused the seizure?

GIBBS: That's correct, yes.

MYERS: And to be clear, you favour breathing difficulties first because your assessment is there's a drop in oxygen before the seizure?

GIBBS: Yes. I think it's true to say I would favour a drop in oxygen leading to the seizure. Exactly why and how the oxygen dropped, I don't know, and it's not consistent with [Baby J]'s course up to that stage that she should suddenly drop her oxygen level.

MYERS: But in fact, if you want to be definitive about it, we can't say for sure whether the seizure caused the breathing difficulties or the drop in oxygen or the drop in oxygen caused the seizure?

GIBBS: That's correct.

MYERS: All right.

GIBBS: But I did say earlier that the oxygen level being low seemed to have occurred early on at the time around the time the seizure started -- and I say "seemed to"

because I wasn't there at the very beginning for the first seizure I witnessed and I'm not sure if I was with [Baby J] or nearby when the second seizure started.

MYERS: All right. But from what you see, that's what you were telling us, you weren't there at the beginning of that section of the events?

GIBBS: Yes, that's correct.

MR MYERS: Thank you, Dr Gibbs, that's what I wanted to check.

MR DRIVER: My Lord, I have no re-examination. Does your Lordship have any questions for Dr Gibbs.

MR JUSTICE GOSS: I don't, thank you very much. That completes your evidence, thank you very much. You are returning. What I have said to you several times before applies of course. Thank you very much.

(The witness withdrew)

MR ASTBURY: My Lord, the next witness we're going to call is Dr Brearey. He's not here, we'll carry on with some reading (overspeaking) --

MR JUSTICE GOSS: We have been told there are two witnesses who aren't available today --

MR ASTBURY: Yes.

MR JUSTICE GOSS: -- who, if we were trying to do this chronologically, would have been giving evidence today, but they couldn't. So they are giving evidence tomorrow, so we've got Dr Brearey and then we've got some statements to be read, I think?

Witness statement of DR RHIANNON AUSTIN (read)

MR ASTBURY: Yes, thank you. I'll start some reading, my Lord, because chronologically it doesn't disrupt matters. I'll begin, please, with a statement at my Lord's page 11, which is Rhiannon Austin.

Her statement is dated 5 March -- well, the relevant part of her statement is dated 5 March 2018. She says as follows:

"I am an ST5 paediatric registrar currently working at Liverpool Women's Hospital. During my ST3 placements I moved to the paediatric department of the Countess of Chester Hospital between September 2015 and March 2016. I then moved back to Alder Hey Children's Hospital, working in general paediatrics between March 2016 and September 2016.

"An ST3 registrar in the Countess of Chester Hospital is the same as any other registrar job: you will be practising and working the same, but as it is your first job as a registrar role you would have more support from senior registrars and consultants. I would complete paediatric ward rounds which I recall at the time I was working in Chester half would be completed by the registrar and the other half completed by the consultant.

"I have been asked to comment on the care and treatment of [Baby J] and in particular her care on 27 November 2015. I was working on a night shift on the 26th into 27 November 2015. I can recall [Baby J]. She went to Alder Hey Children's Hospital for surgery and then came back to the Countess of Chester Hospital. I remember [Baby J] becoming unwell that night. I can't recall where I was but I remember being contacted by Dr George Verghese, who had attended to [Baby J] and suggested that [Baby J] was screened for infection and started on antibiotics. I agreed that this was a suitable course of action given the symptoms.

"Later in the night [Baby J] had become more unwell. I recall I was attending to two new babies in room 1 who had been born at home and brought into the neonatal unit.

"Prior to their arrival, I had called Dr Gibbs (the consultant on call) to let him know and asked if he could come in from home as I was conscious that should they become unwell, it would be unsafe for just myself and Dr Verghese in attendance.

"Dr Gibbs came in from home and attended to [Baby J] shortly after arrival due to her deterioration. I don't recall having any further direct involvement with [Baby J] that night."

MR JUSTICE GOSS: So that does fill in the gap: Dr Gibbs was called from home.

MR ASTBURY: Yes.

MR JUSTICE GOSS: He couldn't remember whether he happened to be there or whether he was called from home.

MR ASTBURY: And I don't think Nurse Griffith was sure either why he was there so quickly but now we know.

My Lord, Dr Brearey is here, I'll call him, please.

DR STEPHEN BREAREY (recalled)

Examination-in-chief by MR ASTBURY

MR ASTBURY: If I could ask you to repeat your name, please, for the record?

BREAREY: Stephen Brearey.

ASTBURY: Thank you. As you know, Dr Brearey, we've heard from you before, if you can keep your voice up for the ladies and gentlemen of the jury we'd all be very grateful.

Dr Brearey, you've come here to assist us, as you know, with a little baby called [Baby J], who was an inpatient at the Countess of Chester neonatal unit, certainly in November through to December 2015.

BREAREY: Yes.

ASTBURY: You reviewed [Baby J] on two occasions: 27 November and 29 November, which is the period that we are interested in. Is it right that in preparing your statement you reacquainted yourself with her date of birth, her clinical course, her treatment at Alder Hey for necrotising enterocolitis and her return to Chester?

BREAREY: That's correct.

ASTBURY: I think you reviewed [Baby J] at 1.20 pm on 27 November 2015; is that right?

BREAREY: That's correct.

ASTBURY: We can go to your notes in a moment. In preparing your statement have you consulted your notes?

BREAREY: Yes, I have.

ASTBURY: We'll go to those in a moment. Do you recall, when you reviewed [Baby J] on that particular day, having familiarised yourself with what had gone on the night before?

BREAREY: That's correct, yes.

ASTBURY: And were you aware, for example, that initially [Baby J] had had two desaturations in the early hours of the morning treated by the nurses?

BREAREY: And Dr Verghese, I understand, well, yes.

ASTBURY: And there were two further what's been described as profound desaturations later in the morning at the end of the night shift?

BREAREY: That's correct.

ASTBURY: So you familiarised yourself with the notes from those two events. You confirm in your statement that, as you understood from Dr Gibbs' notes, they took place from 6.56 and 7.24; is that correct?

BREAREY: That's correct.

ASTBURY: Did you note in your statement that they were associated with stiffness of the limbs?

BREAREY: That's correct.

ASTBURY: Did you note in your statement that there were no significant blood glucose or electrolyte abnormalities to explain the seizures?

BREAREY: That's correct.

ASTBURY: And did you note in your statement that the blood tests and X-rays that were taken showed no evidence of an infective cause at that stage for [Baby J]'s sudden deterioration?

BREAREY: That's correct.

ASTBURY: Thank you. If we can go to tile 258, please, Mr Murphy, and the notes behind and scroll down.

That, I think, is your first note that day. It's behind a tile entitled "Dr Chang", who we've heard was also on duty that day. But just concentrating on your note, please, Dr Brearey, you note that a CRUS has taken place; is that right?

BREAREY: That's short for a cranial ultrasound scan, so an ultrasound scan of the brain.

ASTBURY: Was that with a view to exploring the reason for these seizures in the early hours of the morning?

BREAREY: That appeared completely normal. There was no evidence of a bleed or anything else that might suggest why [Baby J] had had a seizure the night before.

ASTBURY: Thank you. You have then noted some blood test results.

Just casting your eye over those particular results, is there anything there that either causes you concern at the time or that might explain what had happened to [Baby J] hours beforehand?

BREAREY: There was nothing that caused concern or explained why [Baby J] had had her collapse or seizure the night before, no.

ASTBURY: Your note indicates, Dr Brearey, "For blood transfusion". Is that "Have re-sent group"?

BREAREY: This entry is from a junior doctor who's noting my review if you like. The threshold for a blood transfusion wasn't quite met but in view of the episode that had happened overnight we decided to give [Baby J] a blood transfusion, yes.

ASTBURY: Does that say, "Called Alder Hey Children's Hospital" --

BREAREY: That's correct, yes.

ASTBURY: -- "as not returned"; is that the result that you were waiting for?

BREAREY: "Has not returned call." So calling Alder Hey would have been calling the surgeons at Alder Hey to let them know what had happened about [Baby J] the night before.

ASTBURY: Could you take us through the rest of that note, please?

I think that is "still not discussed with".

BREAREY: "Still not discussed with the consultant..."

So the consultant surgeon from Alder Hey:

"... but feels unlikely to be abdominal. For abdominal ultrasound scan and will contact..."

And I can't read the bottom of that, I'm afraid.

ASTBURY: I'm afraid our original is cut off as well. So "will contact" and then we can't quite make out the last of that.

That appears to be -- that's not your signature at the end of that note?

BREAREY: No, no, it might have been -- it's the signature from the person above, I think it might have been Dr Chang.

ASTBURY: It's a different code number underneath, is it (inaudible: coughing) missing but it looks broadly the same.

Are you aware whether the paediatric surgeons at Alder Hey reviewed [Baby J]'s X-rays?

BREAREY: They did.

ASTBURY: And did they discuss them with the team in Chester?

BREAREY: They did.

ASTBURY: As far as you were concerned, did those abdominal X-rays raise any concerns concerning what had gone on with [Baby J]?

BREAREY: There didn't seem to be any abdominal concerns or abdominal cause for the events of the previous evening.

ASTBURY: We're aware that [Baby J] had a stoma fitted. Did they advise in their capacity on the management of those stomas in light of what had happened?

BREAREY: As far as I was aware, other than recommending the ultrasound scan, they didn't recommend any other action.

ASTBURY: At 3 o'clock, did you receive a report from Dr Wright, the radiologist, dealing with that ultrasound of [Baby J]'s abdomen?

BREAREY: I did, yes.

ASTBURY: I wonder if we could go, please, to tile 262. We'll look at that, please. We see the date halfway down on the right. Can you confirm that that's the report that you had the opportunity to see?

BREAREY: The reports came a little later. Dr Wright actually phoned me and spoke to me in person with a summary of this

report, which I put into the case note. I can read the report for you if you like.

ASTBURY: If you want to refresh your memory and then tell us what you recall being told, please.

BREAREY: I mean, I can read it because it was more or less the same thing really. Dr Wright, who was our most senior paediatric radiologist at the time, reported:

"No intra-abdominal..."

Sorry:

"No intraperitoneal free fluid and no abdominal or pelvic collection identified. There was normal bowel peristalsis."

Peristalsis is the muscle contraction of the bowel to push milk from north to south, if you like.

ASTBURY: We know that [Baby J]'s bowel had an interruption, if I can put it that way --

BREAREY: Yes, that's correct.

ASTBURY: -- where product was being recycled and placed back in?

BREAREY: Yes.

ASTBURY: So is that peristalsis throughout the bowel --

BREAREY: It was, yes:

"Normal appearance of the liver, spleen and kidneys, and the urinary bladder. Both kidneys measured 4.4 centimetres longitudinally."

Which would be considered to be normal size for a kidney in a baby this age.

She's mentioned:

"No ultra high resolution probe suitable for MSK, [means musculoskeletal] was available."

Because she was using the scanner available to us on the neonatal unit, so she couldn't look at the abdominal wall in detail. It says:

"A small abscess collection within the abdominal wall at the level of the fistula can therefore not be excluded. Conclusion: normal scan within limits of a portable examination."

ASTBURY: With that report in mind, was there anything therein that would explain the earlier deterioration of [Baby J] from that scan?

BREAREY: No.

ASTBURY: If we go to your next note, please, at tile 267. So your note, doctor, timed at 15.00 hours. You have just told us about the verbal report you received from Dr Wright and then summarised really the bones of what you were told. There was normal peristalsis, is that?

BREAREY: That's correct, yes.

ASTBURY: No collections; is that right?

BREAREY: That's correct, yes.

ASTBURY: No blood?

BREAREY: No.

ASTBURY: And no significant abnormalities?

BREAREY: That's correct.

ASTBURY: You then noted a discussion with [Baby J]'s parents?

BREAREY: Yes.

ASTBURY: And then you've set out the plan that you formed.

You have told us about the blood transfusion.

Can you tell us about the rest of the plan, please?

BREAREY: To repeat the full blood count, just to check -- usually after a transfusion we need to know what level the haemoglobin level has got to after the transfusion.

A blood gas to check that that continued to be normal.

And to -- I have said for...:

"Nursing staff can then still recycle the stoma contents. If gas is satisfactory and the obs are stable, we can consider

restarting the feeds for [Baby J] [the nasogastric tube feeds] after she's had a blood transfusion."

ASTBURY: So bearing in mind what had happened less than 12 hours beforehand, are you able to identify from your notes and everything you've told us so far any concerns that you had for [Baby J] beyond what you'd found out about in the morning?

BREAREY: No. In retrospect, it was quite a remarkable recovery from what happened overnight, really. She normalised very quickly over the course of the day and all the investigations we'd undertaken couldn't identify why she'd had the desaturations that she did have and didn't explain why she had a seizure.

ASTBURY: Were you on that day or in the days that followed able to identify anything subsequently which may have caused those seizures?

BREAREY: I suppose it's identifying the desaturations and the need for resuscitation overnight as well as identifying the seizures. From the normal blood tests, the normal gas subsequently, the normal electrolytes, normal sugar level, the normal cranial ultrasound scan, there's nothing to identify a cause for those seizures. But I do know that hypoxia, for example, can cause seizures if the brain becomes hypoxic. So that would be possibly the most likely cause for the seizures. But then it still remains a question why was [Baby J] hypoxic when for the 2 or 3 weeks beforehand she'd been breathing normally in air and there was no evidence of infection in the blood tests that we did or any of the investigations that we did to suggest any significant infection anywhere. In fact, we stopped antibiotics 36 hours after starting them because there's no evidence of any infection in the blood cultures or the subsequent blood tests following that day.

ASTBURY: So we've heard that infection can take a few days to become apparent --

BREAREY: That's right.

ASTBURY: -- but nothing in the period thereafter?

BREAREY: Nothing subsequently became apparent in those days. We stopped antibiotics and she remained well, you know, for the weeks afterwards, really, until the next episode.

ASTBURY: Just to be clear, hypoxia, I think you mentioned, is that an absence of oxygen?

BREAREY: It's a lack of oxygen in the blood, yes.

ASTBURY: You in fact, I think, reviewed [Baby J] again on 29 November.

BREAREY: Mm-hm.

ASTBURY: I am just going to ask if we can put that note up, please. It's not behind one of our tiles, it's at 15947.

Just go through that note, please. I think we're now --

BREAREY: I'd seen her -- the 27th was a Friday and this was a Sunday. I was just summarising the problems. You mentioned necrotising enterocolitis as the diagnosis at the beginning. Strictly speaking, it wasn't typical of necrotising enterocolitis.

ASTBURY: Right. Thank you for correcting me.

BREAREY: There was a necrotic section of bowel, but generally speaking you need to be fed to have necrotising enterocolitis because an overgrowth of bacteria occurs in the preterm gut and it develops, whereas -- later, after birth, whereas this episode was a problem from birth.

ASTBURY: Too soon to be (overspeaking) feeds?

BREAREY: Exactly. So it was a problem from birth, a congenital problem with the gut that we talk about. So there was a necrotic section of bowel that was taken out. The necrosis was there but the enterocolitis wasn't there, it was -- sorry, just to correct you on that.

ASTBURY: It's my error and thank you for correcting it.

BREAREY: It's okay. So I was just summarising the diagnoses and the sad twin-to-twin transfusion syndrome that [Baby J]'s twin suffered from and, sadly, didn't survive the pregnancy. Then I've described the abnormal movements and the deterioration on 27 November.

ASTBURY: So that's very much a potted history of the concerns that --

BREAREY: Yes.

ASTBURY: -- so far?

BREAREY: Yes. You can see above that as well that she was 36 weeks and 2 days corrected gestation by then, so she's almost a

term baby and had been stable for the weeks beforehand. And she'd received one dose of phenobarbitone for the seizures.

Then moving down the ward round note, she was self-ventilating in air then and had been for a while after the events of the 27th.

In terms of feeds, she was taking 165ml per kilogram per day of expressed breast milk or donor-expressed breast milk every 3 hours by either NG tube or bottle, which is a good sign. She was fully enterally fed and taking some bottles, which is excellent.

Her weight was going up and the most recent weight was 2.144 kilograms. There had been some concerns about her weight gain, but to have gained some weight, particularly even after that episode, was positive and -- I think Mr Murphy might have to scroll down a bit.

Can you go back up to the last one?

MR JUSTICE GOSS: Mr Murphy is actually over there.

BREAREY: Sorry.

MR JUSTICE GOSS: Don't worry about it. Mr Murphy is the man who's doing the screen.

BREAREY: Thanks. In terms of microbiology, the blood cultures had come back with no growth, no evidence of infection.

The CRP was 1, that's a normal level. So there's no evidence of infection on the blood tests. The antibiotics had been stopped by the team. We have a review time of 36 hours so they would have been stopped then prior to my ward round.

I examined [Baby J]. She was looking well, pink, active, handling well, her heart sounds were normal, no murmurs were heard. Her chest was clear to listen to the breath sounds. I have done a diagrammatic of her abdomen there, with her stoma on the left and the right.

Her abdomen was soft, she'd had good stoma output, as noted by the nursing staff. Fistula looks good. Bowel sounds were normal.

MR ASTBURY: Just pausing there, we've heard a little bit about a fistula. Is this right, and again please correct me if I'm wrong, it's a small hole that's opening up next to the stoma?

BREAREY: You could... You could interpret it one of two ways in that. Yes, it could be a small hole opening up next to the stoma. But you could also -- the mucous fistula would be the

distal end of the two stomas that joined up. So one has got the stoma output coming out --

ASTBURY: Yes.

BREAREY: -- that's the ileostomy. And then some surgeons would call the other stoma a mucous fistula because a fistula is a connection, if you like, between two things and the mucous fistula in this case would be a connection between the outside and the rest of the gut, that going down to the anus.

ASTBURY: Do you remember which fistula it was?

BREAREY: It's a long time ago, but in the way I've written that I suggest it was the mucous fistula, the stoma that we were recycling through.

ASTBURY: But in any event --

BREAREY: Yes, there's no concerns, yes.

ASTBURY: Your plan, please?

BREAREY: To continue recycling the stoma contents through the mucous fistula and continue establishing feeds for [Baby J].

ASTBURY: Nothing more than that?

BREAREY: No, no.

ASTBURY: You commented a moment or two ago about [Baby J]'s recovery by the afternoon of 27 November.

BREAREY: Yes.

ASTBURY: How was she presenting on 29 November?

BREAREY: In good condition. I didn't have any concerns about her at that stage. Looking back on it now, we didn't have an explanation for the events of the 27th. Sometimes these can present themselves later down the line, for example if a baby were having seizures, they might have seizures every week or every few days, so you know, you'd still be keeping an open mind as to the cause of what went on on the 27th. But from the investigations we had undertaken and the discussions we'd had with the surgeons at Alder Hey and the imaging that had been done, there was nothing of any concern with her at that time, really, or anything further I felt we needed to do.

ASTBURY: Thank you. We've heard from Dr Gibbs. He saw [Baby J] in his outpatient clinic for some time after this. Did you see [Baby J] after 29 November at all?

BREAREY: I was involved in the episode in December.

ASTBURY: When she was (inaudible: coughing) --

BREAREY: Yes.

MR ASTBURY: Thank you. I have no more questions, but if you could wait there, please.

Cross-examination by MR MYERS

MR MYERS: Just this, Dr Brearey: you've told us about the profound desaturation and seizures at 6.56 and 7.24 on the morning of 27 November. And you say you haven't identified a cause for them, although hypoxia is likely.

BREAREY: Mm.

MYERS: That's right, isn't it?

BREAREY: Mm-hm.

MYERS: All right. There's also, you described, two profound desaturations as recorded in Dr Verghese's note at 05.15, aren't there?

BREAREY: That's correct.

MYERS: And have you identified a cause for those?

BREAREY: No.

MR MYERS: Thank you.

MR ASTBURY: Thank you. I have nothing further. Does my Lord have any questions.

MR JUSTICE GOSS: I don't, thank you. I haven't checked, is --

MR ASTBURY: We expect Dr Brearey back.

MR JUSTICE GOSS: Thank you very much for coming and giving evidence this afternoon, Dr Brearey. You will be returning, I gather, to give further evidence in relation to another baby, so please don't talk to anyone about this case, any of the babies, anything to do with it, to anyone.

BREAREY: Okay, thank you.

MR JUSTICE GOSS: Thank you very much indeed.

(The witness withdrew)

MR ASTBURY: My Lord, that leaves us some more statements to read, but no further witnesses this afternoon.

MR JUSTICE GOSS: About how long will it take?

MR ASTBURY: 15 or 20 minutes.

MR JUSTICE GOSS: In those circumstances, shall we sit through for 15 or 20 minutes and then finish for the day? It seems to make better use of time. You're all still concentrating, I'm sure. Yes? Good.

Just because it's read, I remind you of what I've said more than once: it doesn't mean to say it's any less important than any other evidence. The important thing is it's agreed. Anything that is read to you is agreed evidence and I have said this before, I shall say it again, and I will say it again in the future: what you make of any piece of evidence is entirely for you and how it fits in with other evidence for you.

Witness statement of MS CAROLINE OAKLEY (read)

MR ASTBURY: My Lord, I'll begin at this stage with Caroline Oakley at page 5 of the bundle.

Caroline Oakley in a statement dated 2 March 2018 says this:

"I have been asked to comment on baby [Baby J] and in particular her care on 27 November 2015.

"I was working on a night shift of the 26th into 27 November 2015 and was shift leader on this shift. The designated nurse for [Baby J] on the shift was Nicola Dennison.

"As shift leader, I would not normally have an allocated baby to care for but if the unit was particularly busy I could find myself allocated a baby to look after.

"I have reviewed the nursing notes for this shift and can state I am not documented as having cared for [Baby J] on this shift, however I cannot categorically state I did not have anything to do with her care during the night. One of roles of shift leader is to help and support the team and I may have helped the designated nurse of [Baby J] during the night."

She moves on in more detail, my Lord, at page 6 in a second statement, dated 2 May 2019:

"I have been asked to comment further on my dealings with [Baby J] and particularly her care during the night shift of the 26th into 27 November 2015.

"On 26 November 2015 at 19.30 hours, I commenced the night shift, which finishes at 08.00 hours the following morning, Friday the 27th.

"As shift leader, I would not normally have been allocated a baby to look after as my role and responsibilities is to oversee the entire unit for that shift and to provide support and assistance whenever necessary. However, on occasions there have been occasions when the unit has been particularly busy and the shift leader would have been allocated a baby to care for. I cannot recall if I had a baby allocated.

"On this particular night I do not recall caring for [Baby J]. I have reviewed the nursing notes for the shift and can state that I do not appear to have had any involvement in [Baby J]'s care that night. The entries made on the nursing notes were completed by Nicola Dennison or Mary Griffith.

"Nicola Dennison, a band 4 nursery nurse, was allocated the designated nurse for [Baby J] during the shift. It is documented by Nicola on the nursing notes that [Baby J] became unwell shortly after 04.00 hours and suddenly desaturated.

"Having reviewed the nursing notes, it appears that Nicola Dennison and Mary Griffith have been responsible for the electronic entries on [Baby J]'s nursing notes that evening. It has been documented on the nursing notes by Nicola Dennison, timestamped at 07.49."

And she quotes in particular the entry:

"[Baby J] was moved into nursery 2 for closer observations and plan to omit the 8 am feed."

She returns to her statement:

"This entry would indicate that [Baby J], at the start of the shift, would have been in nursery room 3 or 4. I do vaguely remember from the notes. She was born at 32 weeks and was transferred to Alder Hey Children's Hospital and returned back to the Countess of Chester. [Baby J] had a stoma, which is where a piece of the bowel is removed and one end of the bowel is brought to the surface of the abdominal wall.

"I do not recall having any involvement with [Baby J] on that night shift. I cannot remember what I would have been dealing with at the time of her collapse or where I was.

"As the shift leader, there is nothing significant that stands out in my memory about that shift or what or who I was dealing with at the time of [Baby J]'s collapse. I don't recall the shift being busier than any other night shift. However, that doesn't mean it wasn't, I just cannot recall any of the details relating to this sudden collapse of [Baby J].

"I cannot categorically state I did not have anything to do with her care at all that night. As shift leader I am there to provide support and help when needed. There is nothing about this shift that stands out in my memory."

Witness statement of DR RACHEL CHANG (read)

MR ASTBURY: Page 17, please, my Lord, next. A statement from Rachel Chang, dated 28 June 2018. Dr Chang says:

"I have been asked to comment on baby [Baby J] and in particular her care on 27 November 2015. During this time I was an ST3 specialty training year 3 registrar working at the Countess of Chester Hospital having started my six-month placement in September 2015.

"On this day I was working a day shift and conducted ward rounds on the neonatal unit. I assume I had been allocated to work on the NNU that day as my entry is first thing in the morning.

"My notes for [Baby J] start at 09.30 hours on 27 November 2015, so she would have been one of the first babies I had seen due to her being unwell overnight.

"I noted that [Baby J] had no further seizures or abnormal movements since the event overnight/early morning and the only thing to note was there was still a bit of blood in her stoma. This had been in the previous 48 hours, which I thought may have been related to trauma as her stoma had been re-fed."

"Re-feeding of stomas involves the insertion of a tube into her stoma, so this tubing can sometimes cause some minor trauma. I conducted a full examination of [Baby J], including an examination of her head, which is routine for children who have had seizures. We do this to ensure we exclude fluid build-up or swelling in the brain.

"I also examined [Baby J]'s abdomen as this was one of her main areas of concern since birth. There was the potential that she

was getting infection from her abdomen after her surgery or from a potential new perforation which would make her unwell.

"The examination showed that [Baby J] was off colour and had poor tone. It is likely to be related to the drugs that she had been given to stop her seizures. I noted that there possibly could be a problem with [Baby J]'s bowel after noticing a potential abnormality on an X-ray. This prompted me to ask the specialist at Alder Hey Children's Hospital, who had conducted the stoma surgery, to review these images.

"The start of my notes detail a brief history of [Baby J], detailing that she was premature and was the second baby of twins. The sibling died prenatally due to twin-to-twin transfusion syndrome at 17 weeks. I also recapped the details of the stoma formation at Alder Hey Children's Hospital.

"I break down my documented ward rounds into sections addressing each system of the baby that I review. My documented ward round is as follows:

"Vent (ventilation). [Baby J] was self-ventilating in air, which means she was breathing for herself. [Baby J] had mild intermittent respiratory distress in the morning. There had been no rise in her O2 requirements.

"Fluids. [Baby J] was nil by mouth. At the time of my review she was receiving 180ml per kilogram per day of intravenous 10% dextrose and had 20ml per kilogram of sodium chloride overnight as a bolus when she had collapsed. Her urine output was not formally measured and there had been no excessive stoma losses that morning.

"Cardiovascular system. [Baby J] was warm and well perfused peripherally but did look pale. Her capillary refill time was less than 2, which is normal. Her heart sounds was 1 plus 2 plus murmur. As I have not commented on this, I would assume this is normal for her.

"Neuro. I have commented on her stiff positioning with apnoea, which I believe refers to what happened with [Baby J] overnight. I have also noted she was loaded with phenobarbitone, which is an anti-fitting drug and there had been no abnormal movements since its initiation. She had no further seizures when I was reviewing her.

"Sepsis. [Baby J] had been screened for sepsis that morning. I noted that [Baby J] was on day 1 of antibiotics (teicoplanin and cefotaxime). [Baby J] had a Broviac line in situ, which can also be a possible source of infection.

"Gastrointestinal tract. I recorded that [Baby J] had one episode of GI issues in the previous day. That same day [Baby J] had been given a feed which came straight through to her proximal stoma, not absorbed. There had been some blood in her stoma output over the previous 24-48 hours too.

"This all appears to be me documenting what had happened with [Baby J] during the past 24 to 48 hours and there seemed to be no acute issues with the stoma at the time of my review.

"Medication. [Baby J] was on day 1 of antibiotics (teicoplanin and cefotaxime). She was also having heparin which is a blood thinner you put in a Broviac line to keep it open and patent and can therefore deliver medication.

"[Baby J] was nil by mouth at the time of my review but I have noted that when she was previously taking oral feeds, she had additional sodium supplements and expressed breast milk, fortifier daily.

"Bloods. I have noted that [Baby J]'s bloods were taken at 07.00 hours that day and I have noted the results. The inflammation marker, CRP, was less than 1 which is low and reassuring and should be less than 5. Her white blood cell count was 8.1, which is normal. Her platelet count was 503, which is slightly high. Her haemoglobin was 78, which is lower than what would be liked, but a lower haemoglobin in babies on the NNU can be tolerated due to prematurity.

"The haematocrit, the HCT, is the ratio of the volume of red blood cells to the total volume of blood. [Baby J]'s result was 0.2, which suggests the sample was dilute. This was likely to be related to the fact that she'd been given extra fluid into her veins as a bolus overnight.

"Chest X-ray and abdominal X-ray. I commented that chest X-ray was rotated as [Baby J] may have moved or been malpositioned during the X-ray. There was 'nil focal', which means there was nothing abnormal to be seen. The abdominal X-ray showed an abnormal gas pattern around the stoma. I queried whether this was free air in the abdominal cavity (the right iliac fossa) which would possibly indicate air escaping into the abdomen from the bowel.

"Blood gas. All of [Baby J]'s blood gas levels were good or acceptable. Her lactate was raised to 3.0. It should be ideally less than 2.0, but her previous seizures may have caused this rise.

"When I examined [Baby J] she was pale with reduced tone in her limbs, which is likely to be a side effect of the

phenobarbitone. She had no rashes and there were no skin breaks. Her head circumference was 29.4 centimetres and her anterior fontanelle was soft and equal.

"[Baby J] had clear lung fields when I listened. She had good air entry but had very occasional intermittent work of breathing. I examined her abdomen, documenting all of the stoma skin intact, but she was producing very green stool. [Baby J] handled well. There was no distension of her abdomen and I could still hear her bowel sounds, which would indicate her bowels were working.

"Impression. I documented my questioning as to the source of the sepsis, querying whether it was the Broviac line [Baby J] had inserted or whether it was due to an abdominal source of sepsis such as a blockage, a perforation or an infection given that we were re-feeding remember stoma.

"Plan. Moved forward I have documented a plan with regards to the short-term future care of [Baby J] which included: (1) add calcium/urea and electrolytes to bloods (which is routine in children having seizures); (2) a cranial ultrasound; (3) repeat gas and full blood count in 4 hours (to prove/disprove the previous sample was dilute); (4) take fluids down to 165ml per kilogram a day; (5) strict fluid balance; (6) discuss with surgeons at Alder Hey Children's Hospital at 10.15. After this phone call with the registrar at Alder Hey, they said they would review images with their consultant and call back.

"From my ward round review of [Baby J] and the history of her care I can say that she was more stable than she had been. She was clearly unwell but stable.

"At 13.20 hours the same day I conducted a further review of [Baby J] with Dr Brearey. I wrote the notes for this review on his behalf. It was noted that nothing had changed significantly since my ward round review of [Baby J]. The blood results looked normal. Her repeat full blood count was still awaited. Dr Brearey made a clinical decision to request a blood transfusion and her blood group type was re-sent to ensure a match (which is routine).

"Alder Hey Children's Hospital were recontacted as they had not returned our earlier call. No discussions had taken place with the consultant at Alder Hey at that point but it was felt it was unlikely [Baby J]'s issues were abdominal in origin and an abdominal ultrasound was asked for [Baby J] and the completion of the review with Dr Brearey ended my involvement with [Baby J] on this particular day."

Witness statement of MS AILSA SIMPSON (read)

MR ASTBURY: Thank you, my Lord. One more statement to read, please, at this stage. It's a statement of Ailsa Simpson, which is at page 1 of my Lord's bundle.

In her statement dated 27 February 2018, she says this:

"Further to the statement I have already provided to Cheshire Police regarding the ongoing investigation within the neonatal unit at the Countess of Chester Hospital, I would like to add the following. I have been asked with reference to [Baby J] and in particular her care on 27 [November] 2015."

My Lord, this has been corrected since. It's a typographical error in the original.

MR JUSTICE GOSS: Yes.

MR ASTBURY: "On this day I started a long day shift, which is 07.30 to 20.00 hours. I was allocated [Baby J] to look after as designated nurse. I remember [Baby J] and looking after her. I know she was a twin but the other twin died in utero/pre-birth. [Baby J] had two stomas and a necrotising enterocolitis inflammation of the bowel."

I think that must be, frankly, in error:

"I went to nursery 2 and had a verbal handover from Mary Griffith and Nicola Dennison who had been caring for [Baby J] overnight. Nicola and Mary told me that [Baby J] had been fine until approximately 4 am when she had begun to deteriorate and had two episodes during which she'd fitted. Dr Gibbs was also present and had prescribed phenobarbitone, an anti-fitting drug, for [Baby J]. I cannot recall if any other members of staff or babies in cots were also present at this time in nursery 2.

"I collected the medication from within a locked cupboard in nursery 1 and returned to [Baby J]. As per protocol, the medication was checked by Mary and I before it was administered to [Baby J]. I administered the medication to [Baby J] via her Broviac line which was sited in her chest. Mary and Nicola remained in or near to nursery 2 as I administered the medication. The phenobarbitone settled [Baby J] and she stabilised.

"Dr Rachel Chang attended to [Baby J] as part of her ward rounds. She completed a full check of [Baby J] as per normal ward round visit.

"I remained the designated nurse for [Baby J] for the entirety of the shift but [Baby J] remained stable throughout my shift.

Cranial and abdominal ultrasounds were completed with nothing abnormal detected. Dr Chang liaised with [Nurse A], who was the on-call consultant that day, and then spoke with surgeons in Alder Hey and it was decided that [Baby J] should remain in the Chester with the current care, but if there was deterioration they would transfer her to Alder Hey.

"I will have taken a break at some stage of the day but can't recall when that was or who took over the care of [Baby J] while I was away. I recall speaking with [Baby J]'s parents during the day and advising them as to the care of [Baby J] and what we were doing to help her. I remember them being very anxious, which is understandable considering what their child was going through.

"At approximately 19.30 hours that day I will have handed over the care of [Baby J] to the night staff. I can't recall exactly who was the designated nurse for [Baby J] that night, but the nursing notes show Lucy Letby as making entries immediately after my care, which is normally what happens when staff take over the care of a baby."

My Lord, the next statement is simply the correction that I mentioned at the start with the dates. I'm not proposing to read that unless specifically asked to.

MR JUSTICE GOSS: Well, no, it was clearly a typing error because it simply didn't make sense.

MR ASTBURY: That concludes that bundle of reading.

MR JUSTICE GOSS: Thank you very much. That then is as far as we can go today. Members of the jury, 10.30 tomorrow morning, please. I hope you are understanding of the situation of people who can't be here sometimes especially when, as you know, things haven't gone quite according to plan over the last few weeks, so everyone, I assure you, is doing their best to maximise the use of time, but it means you've got an extra hour this afternoon. Thank you very much. 10.30 tomorrow morning, please.

(In the absence of the jury)

Housekeeping

MR ASTBURY: We are swapping some witnesses later in the week so we can avoid this happening again.

MR JUSTICE GOSS: I know it's very difficult to get it right all the time.

Just in terms of timetable, when is it likely that the evidence in relation to [Baby J] is going to be completed?

MR ASTBURY: We think tomorrow afternoon.

MR JUSTICE GOSS: I didn't want to say that publicly just in case I was wrong.

MR ASTBURY: Fingers crossed.

MR JUSTICE GOSS: It's likely that will be -- right. I know that people who have a particular interest will --

MR ASTBURY: Yes.

MR JUSTICE GOSS: No doubt they are being kept informed anyway.

MR ASTBURY: Yes.

MR JUSTICE GOSS: Good. Would you like her to --

MR MYERS: Yes, we would, please, my Lord.

MR JUSTICE GOSS: Counsel will be coming down to see Ms Letby. Thank you very much.

(3.18 pm)

(The court adjourned until 10.30 am on Tuesday, 14 February 2023)