

16 February 2023
Babies L & M

CONTENTS

MS TRACEY JONES (sworn)
Examination-in-chief by MR ASTBURY
Cross-examination by MR MYERS

MRS MARY GRIFFITH (recalled)
Examination-in-chief by MR ASTBURY
Cross-examination by MR MYERS
Re-examination by MR ASTBURY

MS BELINDA WILLIAMSON (recalled)
Examination-in-chief by MR DRIVER
Cross-examination by MR MYERS
Re-examination by MR DRIVER

[DR A] (sworn)
Examination-in-chief by MR ASTBURY

DR JOHN GIBBS (recalled)
Examination-in-chief by MR DRIVER
Cross-examination by MR MYERS
Re-examination by MR DRIVER

Thursday, 16 February 2023
(10.30 am)

(In the absence of the jury)

MR ASTBURY: Apologies, my Lord, that didn't come through sooner.

MR JUSTICE GOSS: That's fine, thank you. I didn't need it earlier. It's all right.

MR ASTBURY: I should say the first two witnesses will be Jones and then Griffith chronologically, not Simcock.

MR JUSTICE GOSS: Right, thank you.

(In the presence of the jury)

MR ASTBURY: I call Tracey Jones, please.

MS TRACEY JONES (sworn)

Examination-in-chief by MR ASTBURY

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

JONES: Tracey Jones.

ASTBURY: I know I'm asking the questions. Can I ask you not to allow your voice to drop, please, and perhaps if you keep in mind that the ladies and gentlemen of the jury need to hear everything you say, if you can try and project your voice in that direction, we'd be very grateful.

JONES: Okay.

ASTBURY: Thank you. Your occupation, please?

JONES: I'm a senior lecturer in nursing.

ASTBURY: Thank you. From time to time in that capacity do you work on a neonatal unit in order to maintain your competencies?

JONES: I did. I no longer do, but I did.

ASTBURY: Did you do so back in 2016?

JONES: Yes.

ASTBURY: And in 2016, did you work a number of shifts at the Countess of Chester Hospital?

JONES: I did, yes.

ASTBURY: Tell us, please, about your qualifications.

JONES: I'm a registered children's nurse. I'm qualified in neonatal intensive care. I'm an enhanced neonatal nurse practitioner and an independent prescriber.

ASTBURY: Thank you. Back in 2016, we've heard about various bandings and work allocation within a neonatal unit.

What band would you have been considered within the NNU?

JONES: Within the neonatal unit at Chester at that time, on my agency shift, I would have been deemed a band 5, but my other role was a band 8A.

ASTBURY: Thank you. Were you qualified to care, for example, for intensive care babies?

JONES: Yes, I was.

ASTBURY: You've been asked or have you been asked to come along today to assist us with your recollections of a baby by the name of [Baby L]?

JONES: Yes, I have.

ASTBURY: Did you care for [Baby L] on the 8th and 9 April 2016?

JONES: Yes.

ASTBURY: Do you have any independent recollection of [Baby L]?

JONES: Only from reading my statement. I don't remember the baby.

ASTBURY: In preparing your statement, did you have access to the notes that you made at the time?

JONES: Yes, I did.

ASTBURY: Would it assist you if, during the course of your evidence, we refer to your notes as we go along?

JONES: Yes, please.

ASTBURY: Okay. Did you work a night shift on 8 April?

JONES: Yes.

ASTBURY: We've heard that that would begin at 7.30 in the evening, there would be a handover, and you would then adopt sole responsibility for your baby at 8 o'clock?

JONES: Yes, that's correct.

ASTBURY: I'm going to ask, please -- by way of assistance, if you look to your right there's a screen with a chronological presentation -- if we could go, Mr Murphy, please, to tile 53.

We've agreed that that time is -- I don't think we need to go behind it -- is the time of the changeover.

Just from your recollection and the notes generally, do you remember how [Baby L] presented when you took over his care at 8 o'clock?

JONES: I can't remember unless I look at the notes.

ASTBURY: Okay. Perhaps if we then, please, to tile number 78.

If we look behind that, that should show your nursing notes, albeit made at 04.27. Was the practice to make notes up when the opportunity arose and, if necessary, in retrospect?

(Pause)

MR JUSTICE GOSS: This is actually your note?

JONES: Yes.

MR JUSTICE GOSS: It is, is it?

JONES: Yes.

MR ASTBURY: If we just look at the top line with the date, I think we're becoming familiar with these. The initials that are shown are actually BB.

JONES: Yes.

ASTBURY: And although it's shown as your note on our tile, would that be a note that you recall being made on your behalf?

JONES: It would be because I wouldn't have had access to the electronic system. So somebody would have logged in, probably, and allowed me to type in my note.

ASTBURY: All right. Does the B represent bank or would that be the initials of a particular nurse?

JONES: I don't know, I'm sorry.

ASTBURY: All right.

MR JUSTICE GOSS: Anyway, someone had to log on for you and then you created the note, so that BB is either some generic --

JONES: Yes, I'm sorry, I can't --

MR JUSTICE GOSS: No, don't apologise. The point is, it's got your name at the bottom, hasn't it?

JONES: Yes, they'll be my notes.

MR ASTBURY: Thank you. You've obviously just taken the opportunity to cast your eye over them. Can I go through them with you, please. These hopefully capture, certainly up to 04.27, that particular shift:

"Care taken over by T Jones, agency nurse, at 19.30. All safety checks completed and satisfactory. Fluids and enteral feeds checked and administered. Enteral feeds tolerated of donor..."

And we have learned that that's expressed breast milk.

JONES: Yes.

ASTBURY: It then says:

"Abdomen soft, passed meconium and urine."

Would they have been your observations?

JONES: Yes.

ASTBURY: Then you've made a note to say:

"Cannula knocked out by baby therefore replaced by registrar."

JONES: Yes.

ASTBURY: Any recollection of that or is that just within the notes?

JONES: No memory of that, I'm afraid, sorry. It's a long time ago.

ASTBURY: There's then a reference to -- is that intravenous antibiotics?

JONES: Yes.

ASTBURY: "Administered as prescribed by ward staff"?

JONES: Yes.

ASTBURY: Does that mean -- did you actually administer them or would someone else have done that on your behalf?

JONES: No, because I was an agency nurse they would have done that.

ASTBURY: But as it's your baby, you record that in the notes?

JONES: Yes.

ASTBURY: "Skin intact, no concerns. Full monitoring continues and observations within normal limits for gestation. Temperature maintained. Nursed in an incubator set at 32.5."

That's presumably degrees centigrade?

JONES: Mm-hm.

ASTBURY: "Phototherapy continues, eyes protected."

And we've heard that is a treatment for jaundice --

JONES: Yes.

ASTBURY: -- is that correct?

JONES: Yes.

ASTBURY: Again, related to jaundice, "Last SBR result", I think that's a bilirubin result; is that right?

JONES: Yes.

ASTBURY: "... at 62 so lights to continue."

And you have noted:

"Pre-feed blood glucose all above 2 mols, therefore to discontinue monitoring as requested by registrar. No contact from parents throughout shift."

And then, as his Lordship has already pointed out, your name and the date.

Just looking at that entry:

"Pre-feed blood glucose all above 2 mol, therefore discontinue monitoring."

Does that remind you of how [Baby L] presented at the start or through the early part of your shift?

JONES: Yes. If I've written that, it would mean that his blood glucoses would have been all above 2 millimoles.

ASTBURY: Okay. Were, do you remember, blood glucose levels at that stage, or were they, an issue for [Baby L]?

JONES: I think they had been because it was -- the baby was on a glucose infusion, but I can't remember, I'm sorry.

ASTBURY: Okay. The significance of any of those readings being over 2 mol on those occasions that you've noted? Is there any significance in those numbers?

JONES: Yes, because that's what a normal expectation would be, so we would want it to be above that.

ASTBURY: So certainly as far as your shift was concerned, you were satisfied that they were normal readings?

JONES: Yes.

ASTBURY: All right, thank you. Could we go, please, to tile 54 next, Mr Murphy? We'll just deal with the observations, if we may, that you recorded on that shift with [Baby L].

If we scroll down, please, to the bottom. If you could identify for us if your signature or your initials in your hand appear on the bottom of that page?

JONES: Yes.

ASTBURY: Are they the -- it looks like a T and they're pretty well in the middle on six of those boxes; is that right?

JONES: Yes.

ASTBURY: We'll come to possibly later ones in a moment, but if we just concentrate on those, please. We've become more familiar with this sort of document. Is this something you recognise?

JONES: Yes.

ASTBURY: Does it represent the observations, if we scroll down, that you took over that period of baby [Baby L]?

JONES: Yes.

MR ASTBURY: My Lord, this document is in the paper bundle.

So I'm not going to dwell on it.

Is there anything there, Nurse Jones, that strikes you as unusual or that you feel you need to bring to our attention during that part of your shift?

JONES: Scroll it up again, please.

ASTBURY: All the entries appear to be within the necessary parameters?

JONES: Yes.

ASTBURY: And then there's some handwritten entries further down.

Saturations --

JONES: Yes.

ASTBURY: -- all except one, I think, at 100. Then you've ticked affirmatively the various checks that you had to make and we can see the temperature of the cot as well.

Going back to those blood glucose levels that you told us about, can we go next, please, to tile 55, Mr Murphy.

Again, that form that you are familiar with or do you recall from the Countess of Chester?

JONES: (Pause). Yes.

ASTBURY: Take a moment. It specifies in the top right, Countess of Chester, is it something similar --

JONES: Yes, that's right.

ASTBURY: Okay. Then can I ask, towards the top left of the document where we can see "Twin 1 [Surname of Babies L & M]", which we know was [Baby L], are they your initials in those boxes on the top left?

JONES: Yes.

ASTBURY: To confirm that you've done those checks?

JONES: Yes.

ASTBURY: Thank you. Then if we look at the times, which are about a third of the way down the page as we look at it now, from 20.00 we have hourly boxes; is that right?

JONES: Yes.

ASTBURY: Which, as [Baby L]'s designated nurse, you'd have been responsible for completing?

JONES: Yes.

ASTBURY: Again, I'm not going to ask you about any of those higher entries, but if we could scroll down to those nearer the middle of the page. Along the line of

"feeds", there are entries, 2.3, 2.2, and is that a 3.6?

JONES: Yes.

ASTBURY: What do they represent, please?

JONES: They would have been the blood glucose levels that I took.

ASTBURY: Certainly above the second and third is the word "pre"; does that tell us anything?

JONES: That's pre-feed.

ASTBURY: So the level would be taken before [Baby L] fed?

JONES: Yes.

ASTBURY: Can we see from that particular feed row that [Baby L] was receiving donor-expressed breast milk two-hourly; is that right?

JONES: Yes.

ASTBURY: And certainly the three entries on the right, which appear to be yours, correct me if I'm wrong, are via an NGT?

JONES: Yes.

ASTBURY: Is that 7ml, then 8ml, then 7?

JONES: Yes.

ASTBURY: And then a cumulative figure underneath?

JONES: Yes.

ASTBURY: Thank you. If we scroll down -- sorry, before we do, that top row, is that a rolling record of the fluids that [Baby L] was receiving intravenously --

JONES: Yes.

ASTBURY: -- in addition to milk?

JONES: Yes.

ASTBURY: Somebody's noted 10% glucose --

JONES: Yes.

ASTBURY: -- by way of explanation? All right, thank you. Now if we can scroll down. Is that your handwriting, "Mec and PU"?

JONES: Yes.

ASTBURY: Confirming your note that meconium had been passed and urine?

JONES: Yes.

ASTBURY: Thank you. If we can go, please, to the next -- that one finishes at midnight.

If we can go to tile 70, please, for the next fluid balance chart. Again, my Lord, these are in the jury's paper bundle.

MR JUSTICE GOSS: I'm following it on paper. It's much easier because you can see the whole document.

MR ASTBURY: Sorry, I'm tied to the screen, I do apologise.

MR JUSTICE GOSS: No, no. It's near to the back of it.

MR ASTBURY: So same form but we can see the date towards the top left, now 9 April. If we scroll down to the bottom, please. Are you able to identify your initials again?

JONES: Yes.

ASTBURY: We can see that they're timed at 2 am, 4 am and 6 am, those columns?

JONES: Yes.

ASTBURY: Thank you. In a similar fashion, we can see the milk feeds continuing via NGT; is that right?

JONES: Yes.

ASTBURY: We can see on each occasion 7ml; is that right?

JONES: Yes.

ASTBURY: And the cumulative figures start again because we pass midnight?

JONES: Yes.

ASTBURY: Fluids are continuing in that top row; is that right?

JONES: Yes.

ASTBURY: And again, as far as output is concerned, on two occasions you've entered "passed urine" and the first -- is that "bowel not opened"?

JONES: Yes.

ASTBURY: But at 6 am meconium?

JONES: Yes.

ASTBURY: All right. I note, please tell me if I'm wrong, on those entries between 1 am and 6 am, you haven't continued to record the blood sugars. Does that follow on from what you told us earlier?

JONES: I think in the notes it had said that because they were normal, we didn't need to continue doing that.

ASTBURY: All right. So we've got those three readings you talk about in your note and because of the readings that you got, that regular monitoring was able to stop.

Thank you.

Before we move on from blood sugars, please, could we just have a look behind tile 5, Mr Murphy, please?

I'll ask you to look at a form which you may or may not recognise. In fact, we can see the first four entries are not your initials, but are the next two yours?

JONES: Yes.

ASTBURY: They're not dated, but probably because they -- do they follow on from the 8th?

JONES: Yes, they match the blood sugars in my notes.

ASTBURY: And I think those three readings, even though the third is undated -- certainly the first two follow your entries on the feeding chart that we've just been looking at?

JONES: Yes.

ASTBURY: I'm afraid the third isn't dated so I don't know whether that's the same one or not. Are any of those entries yours other than those two that we've looked at?

JONES: I can't tell because there isn't -- my signature isn't there.

ASTBURY: Can we scroll down a little bit more, Mr Murphy, so we can see the whole thing? I don't think there are, but you tell us if I'm wrong. Just those two entries with your initials?

JONES: That's all I can see, yes.

ASTBURY: Thank you. Tile 74 next, please, Mr Murphy. We don't need to go behind these. I think you mentioned that it would have been the ward staff who administered medication so when we see at 3.41, benzylopenicillin being administered, is that consistent with what you told us earlier, whereby members of the ward staff would provide those drugs to the baby?

JONES: Yes.

ASTBURY: All right. I know, because we looked at the initials on the computer, that in fact a nurse with the initials BB was on duty that night. So it may be that she was the lady who admitted you to the computer to make your note.

JONES: Very likely.

ASTBURY: Did you at any point during the course of that shift have any cause to change any of the IV bags that [Baby L] was attached to?

JONES: No, not from my recollection.

ASTBURY: Can we look, please, at the next night shift and go to tile 200. We can see that you came on again at the same time the following night. Again, were you [Baby L]'s designated nurse that night?

JONES: Yes.

ASTBURY: Let's go to your notes, please, at tile 247. We'll check it is your note, please. No, that isn't your note, I'm afraid. Let's just have a look. It's over to the left, Mr Murphy. Thank you. Down a bit.

Thank you.

So into the morning of the 10th now. You've written a similar time to your note the night before, would that be fair to say?

JONES: Yes.

ASTBURY: This time we've the initials [Initials of Nurse C]. I think there was a nurse by the name of [Nurse C] on that night.

So do you imagine it was the same situation where they opened the computer up for you and you made the notes?

JONES: That's correct, yes.

ASTBURY: Thank you. Can we look at your note then, please:

"Care taken over at 19.30 hours by Tracey Jones, agency nurse. All safety checks completed and satisfactory. Baby currently nursed in an incubator in air. Full monitoring in situ and alarm limits set. At the start of the shift baby [Surname of Babies L & M] was on IV 12.5% dextrose [obviously higher the night before when you'd last cared for him] via peripheral cannula."

And was now nil by mouth, so no continuing milk feeds:

"Blood sugars ranged from 2 to 2.4 through the night. [Dr A] informed and commenced some enteral feed of donor milk 3ml each 2 hours."

Then you have noted that that intravenous infusion changed to a concentration of 15% at 6ml per hour and a long line was sited for infusion:

"Blood sugar currently..."

So that would have been around, what, 4.48, when you made the note; is that right?

JONES: Yes.

ASTBURY: "... 2.3 mols with dextrose 15% infusing. [Dr A] informed and requested I continue with the current fluid regime. Antibiotics administered as prescribed."

And just explain to us what "pre-gent level" means, please?

JONES: Gentamicin is one of the antibiotics. We have to measure the levels pre the administration, before.

ASTBURY: The levels of what?

JONES: Of the gentamicin.

ASTBURY: Right, okay, thank you. Would that have been the situation as per the night before, that another member of staff would administer the antibiotic?

JONES: No, because it's only -- the pre-levels are only sent on a certain regime, so it's not every administration.

ASTBURY: Right, okay:

"Temperature maintained and all observations within normal limits for gestation. Again, passed urine and meconium. Both parents visited and had cuddles."

And then again you've written your name and dated it at the end. Having read that, any particular recollection of the shift with [Baby L], that second night shift?

JONES: Only a brief recollection. It's a long time ago.

ASTBURY: Okay. Perhaps if we go then to your observations chart at 202, please. Scroll down, please, Mr Murphy, to the initials at the bottom.

We can see -- we looked at this form earlier -- your initials in the centre of the page at the bottom there from the night shift before. Then I'm afraid the number is rather obscured, but do they appear to be your initials in those three boxes?

JONES: Yes.

ASTBURY: Is that your handwriting above?

JONES: Yes.

ASTBURY: Immediately above that numbering, is that a reference to -- is that blood pressure?

JONES: Yes.

ASTBURY: Any reason why that, can you recall, is noted there?

JONES: I probably would have just done that routinely.

ASTBURY: Okay. You've written across the lower rows

"Discontinued". Is that the phototherapy -- is that a reference to the phototherapy?

JONES: Yes.

ASTBURY: We can see, again working our way up the page, saturations 90 and 100 twice. The temperature of the cot was maintained at 32. Is that right?

JONES: Yes.

ASTBURY: Then again, if we look at those regular observations, they remain within the acceptable parameters; is that right?

JONES: Yes.

ASTBURY: Thank you. Can we go, please, then to the observations chart at 234 for the rest of your shift, that form having come to an end at midnight -- 23.00 hours, I'm sorry.

If we scroll down again and look at the initials in the bottom row. Do you recognise your initials again?

JONES: Yes.

ASTBURY: It's perhaps easier to work our way up again.

Saturations all satisfactory?

JONES: Yes.

ASTBURY: You checked the probe on one occasion was in place; is that right?

JONES: I would have changed the probe.

ASTBURY: Changed it, right, thank you. And then cot temperature's gone up a little bit to 32.5, is that right, or are those 5s for the box above?

JONES: No, it's 32.5.

ASTBURY: Thank you. And then if we scroll down again -- sorry, up. We can see there the temperature straying into the yellow box.

JONES: Yes.

ASTBURY: Respirations, pretty central within that white box, but again if we look at the heart rate, that appears to have climbed a little; would that be right?

JONES: That's because his temperature was going up.

ASTBURY: Right, thank you. If we look at the feeding charts again, please, at tile 203 to begin with. If we look at that bottom row again, are they your initials at the end and on the right?

JONES: Yes.

ASTBURY: So we can see at the start the night before and, at the end, the particular night we've now moved on to.

JONES: Yes.

ASTBURY: If we go up, we can see again meconium and passing urine at 22.00 hours. In the next row alongside the words

"grand total" we've got a series of readings. Can you tell us what those readings are, please?

JONES: They would have been the blood sugar.

ASTBURY: So those checks have resumed on your night shift when you've come in. Would you have -- when you've come on duty at 20.00 hours -- and we can see all the readings before then are below 2 apart from one, but they're all hovering around 1.9 or 1.7. Is that the type of thing you'd have familiarised with when you came on duty?

JONES: Yes.

ASTBURY: So would you have been aware at that stage of the type of readings that were being returned?

JONES: Yes.

ASTBURY: And would that -- tell us, please, if I'm wrong -- would that be why you continued to take them, it would appear, on an hourly basis?

JONES: Probably.

ASTBURY: Okay. That takes us as far as midnight. If we could go next, please, to tile 230.

Starting on the left, starting at 1 am, are those boxes again in the bottom left-hand corner bearing your initials?

JONES: Yes.

ASTBURY: Can we see from the form that certainly by 1 am, if we just check the form before, milk feeds have resumed at 1 am? I'm just checking there were none on the sheet before. And they've gone back to each 2 hours?

JONES: Yes.

ASTBURY: Slightly smaller amounts, but we can see them entered in the box. Then if we go up and helpfully we've got

"BM" in a circle. Did you continue to take blood sugar readings pre each of those feeds?

JONES: Yes.

ASTBURY: Going up to the fluids at either 04.00 or 05.00, one or the other, we can see, am I right, that the 12.5% solution was discontinued; is that right?

JONES: Yes.

ASTBURY: And it would appear that at 04.00 hours a higher concentration has been delivered at 15%. Is that your handwriting noting "long line" alongside?

JONES: Yes.

ASTBURY: Thank you. Then through the rest of the day you're not on duty, but while we're looking at the form, we can see the blood sugars through the day start to climb: 2.9, 3, and then falling back a little to 2.8 and 2.9; is that correct?

JONES: Yes.

ASTBURY: Thank you. Having refreshed your memory from the two night shifts, is there anything in particular you can remember about [Baby L] and the events on either of those shifts beyond what we've looked at in the notes?

JONES: No.

ASTBURY: Okay. Were you aware at any stage during the course of either of those night shifts of any insulin being prescribed to [Baby L]?

JONES: Absolutely not, no.

ASTBURY: Why do you say absolutely not?

JONES: Because insulin's only given to very sick babies and this baby wasn't prescribed insulin.

ASTBURY: Would a baby ever be given insulin without the benefit of a prescription from a doctor?

JONES: No.

ASTBURY: Did you give [Baby L] any insulin that particular -- on either of those shifts?

JONES: No. No.

ASTBURY: Are you aware of anyone else giving him insulin on either of those shifts?

JONES: No, not at all.

MR ASTBURY: Thank you. Could you just wait there, please?

Cross-examination by MR MYERS

MR MYERS: As an agency nurse, Nurse Jones, did you give medication to children on the unit when you were acting as an agency nurse there?

JONES: I don't recall this shift. Possibly I would have done, yes, vitamins. Possibly because I'm more familiar at Chester and on an agency shift, yes I would on occasions.

MYERS: And were you given high dependency or intensive care babies to treat or to look after, sorry?

JONES: Yes, sometimes.

MYERS: Was it in about 2016 that you started at the Countess of Chester as an agency nurse?

JONES: I didn't really work for the Countess, I worked for an agency and then the Countess would have recruited somebody for that shift.

MYERS: Do you remember whether this is the period, 2016, when you first started working at the Countess via the agency?

JONES: I think so, yes.

MYERS: Can we put up, please, the blood gas chart at T5. I'm going to look at a couple of the documents that you've already looked at just to ask a couple more questions about them. If we go behind that, thank you.

They're documents you've got in paper as well, ladies and gentlemen, so you can follow it either way.

Just looking down here, we can see this chart starts on the day of [Baby L]'s birth. You can see that in the top left hand corner. If we come down to the fifth line down, we've got an entry for 20.00. Do you agree, Ms Jones, that's your initials are signed on that line?

JONES: Yes.

MYERS: So that's 20.00 on the 8th and a reading of 2 on the blood glucose.

Then the next reading down, 21.00, a reading of 2.4.

Is that your entry as well?

JONES: It is, yes.

MYERS: You've explained to us that in the course of this shift, because the readings seemed to be normalised, you then ceased taking the readings; is that right?

JONES: Yes.

MYERS: So although we can see a timing of 00.54 that follows 21.00 -- and can you see that?

JONES: Yes.

MYERS: Just looking at that line, that's not actually a line entered by you, is it?

JONES: No.

MYERS: No. And certainly to the best of your recollection that doesn't appear to be a line linked to the shift that you were doing, does it?

JONES: I don't know.

MYERS: Just from what you're looking at there, it doesn't, does it?

JONES: Well, I don't know. I mean, 3.6, I think, was possibly the last reading that I took.

MYERS: We'll have a look in a minute. Yes, it is, but it's not your signature next to it, is it? It's not your signature next to it?

JONES: No, it isn't.

MYERS: And certainly 4.6 at 05.35 is not a reading you took, is it?

JONES: No.

MYERS: So it appears that somewhere along the line, as we look at this chart, we've got a different -- readings for a different date actually that have been put in but not the date. Do you agree that's how it looks?

JONES: I don't know.

MYERS: All right.

MR JOHNSON: I think it's obvious as the nurse who signed it wasn't on duty that night.

MR JUSTICE GOSS: Exactly, yes.

JONES: I don't know who I was on with so I don't know.

MR JUSTICE GOSS: No, no, I don't think the witness can answer. All she can say is -- she can only speak to her own entries and she can't really speak to other -- I think it'll be -- I don't think it's controversial what you're suggesting.

MR MYERS: I'm simply going through it with the evidence carefully to establish these are not entries from that night with this witness in fact. If there's no dispute as to that, that's easy to say. These aren't yours, Ms Jones.

Can we have a look next, please, at the feeding chart at tile 55 that we looked at. We know from what you've told us, if we look at the three blood glucose readings, we've got 2.3, 2.2 and 3.6, haven't we? There we are, the cursor's just on them. Do you agree?

JONES: Yes.

MYERS: They're the ones that you would have recorded on this shift, aren't they?

JONES: Yes.

MYERS: As it happens, there's the 3.6 you were thinking about there at 24.00, isn't there?

JONES: Yes.

MYERS: If we go to tile 70, please, this is the chart that follows on. We see there's no readings from midnight and in fact the first reading we come to is at about 10 o'clock the following shift, isn't it, a reading of 1.9. Do you see that?

JONES: Yes.

MYERS: But you didn't enter the reading for 1.9, did you, because your shift had finished by then, hadn't it?

JONES: Yes.

MYERS: 1.9 is below the required level for blood glucose, isn't it?

JONES: It's below normal, yes.

MYERS: Below normal, yes. And the reason you'd stopped taking the readings is because they were all 2 or more; that's right, isn't it?

JONES: Yes.

MYERS: And so it certainly appears at some point between midnight and 11 o'clock, 10 o'clock in the morning, there's a significant drop in the blood glucose, isn't there?

JONES: Yes.

MYERS: Is this right, you'd been with [Baby L] throughout the night shift until about 7.30 or 8 am? Would that be right?

JONES: Yes.

MYERS: And following on from questions earlier, had you done anything that made the level drop from where it had been at midnight to where we find it at 10 o'clock the following morning?

JONES: What do you mean, done anything?

MYERS: Can you explain why it's dropped from anything you did?

JONES: No.

MYERS: No. So it follows, had you done anything that led to that drop in blood glucose?

JONES: No.

MR MYERS: Thank you.

MR ASTBURY: I have no further questions. Does my Lord have any questions?

MR JUSTICE GOSS: I don't, thank you very much.

MR ASTBURY: We don't think we'll see Ms Jones back again.

MR JUSTICE GOSS: It's not anticipated you'll be required to give any further evidence in this case. But I'll say to you what I say to everyone in your situation: please don't talk to anyone about anything to do with this case until it's all over. Thank you very much. And thank you for coming and giving evidence today.

JONES: Okay, thank you.

MR JUSTICE GOSS: You're free to go.

(The witness withdrew)

MR ASTBURY: My Lord, Mary Griffith, please.

MRS MARY GRIFFITH (recalled)

Examination-in-chief by MR ASTBURY

MR ASTBURY: Could you state your full name for the record, please?

GRIFFITH: Mary Griffith.

ASTBURY: Thank you. You know to keep your voice up for us nice and loud. We've had this conversation before.

Thank you.

We know that you were employed as a neonatal nurse back in 2016 in Chester at the neonatal unit.

GRIFFITH: Yes.

ASTBURY: And you've come here to assist with your recollection of treating a baby by the name of [Baby L].

GRIFFITH: Yes.

ASTBURY: Thank you. Did you work, on 9 April 2016, a long day shift?

GRIFFITH: Yes.

ASTBURY: Were you the designated nurse on that shift for both [Baby L] and his twin brother [Baby M]?

GRIFFITH: Yes.

ASTBURY: You're familiar with the presentation that we have available. I'm going to ask you, please, to look at tile 82 to begin with. We looked last time at swipe data. That suggests that you're coming into the neonatal unit at 07.19 that morning. Would that be consistent with your routine when working a day shift?

GRIFFITH: Yes.

ASTBURY: If we can look, please, at tile 88, Mr Murphy.

Hopefully we have behind there a representation of the personnel and allocation that particular shift. If I could go through it with you, please.

The paediatrician of the week was Dr Gibbs and on call was Dr Jayaram. This is a Saturday, so an on-call consultant was required; is that right?

GRIFFITH: Yes.

ASTBURY: We have the registrar rather on duty, Tony Ukoh, and SHOs by the name of Cassandra Barrett and Andrew Henton.

Do you have any recollection of those three people?

GRIFFITH: No, I couldn't remember who was on that shift.

ASTBURY: Then we have, perhaps more importantly for you, the nursing staff. The shift leader was [Nurse B]. You're highlighted as the designated nurse for [Baby L]. And also on duty, Lucy Letby, Belinda Simcock and Ashleigh Hudson.

GRIFFITH: Yes.

ASTBURY: Do you recall those people being on duty?

GRIFFITH: Yes.

ASTBURY: A nursery nurse by the name of Angela McShane.

GRIFFITH: I don't remember that one, but she was probably there.

ASTBURY: You certainly remember the registered nursing staff that day?

GRIFFITH: Yes.

ASTBURY: Thank you. When you started your shift, what condition did you understand [Baby L] to be in?

GRIFFITH: Stable.

ASTBURY: Right. If we look at the allocation of the babies, we can see that [Baby L] and [Baby M] were in nursery 1 at the time --

GRIFFITH: Yes.

ASTBURY: -- with another two babies, both of whom were allocated to Lucy Letby. Is that consistent with your recollection?

GRIFFITH: I can only recollect one, but there could have been two in there. It's a long time ago.

ASTBURY: Understood. We can see in nursery 2, nursery 3 and nursery 4 the allocations for other nurses on duty.

Did [Baby L] or were you aware of [Baby L] having any particular issue when you came on duty?

GRIFFITH: He had had low blood sugars and he was under phototherapy for jaundice.

ASTBURY: What did you understand had been the progress of those low blood sugars when you came on duty?

GRIFFITH: Um... They hadn't moved much. They'd been pretty stable but they were lower than we'd have liked.

ASTBURY: Were you aware whether they had been monitored on the preceding shift?

GRIFFITH: Yes, they had been.

ASTBURY: Do you remember, as it happens, who you took over from that morning?

GRIFFITH: Yes, Tracey -- I can't remember her surname.

ASTBURY: And were you aware that Tracey was an agency nurse?

GRIFFITH: Yes.

MR JUSTICE GOSS: You've just pointed to the lady who's just left court, Tracey Jones.

GRIFFITH: Yes. She worked on the unit before so we knew her, although she was agency.

MR ASTBURY: Thank you, my Lord.

Obviously, the recording won't pick that up. That was my mistake.

MR JUSTICE GOSS: That's all right.

MR ASTBURY: So you had taken over from Tracey Jones. You knew that [Baby L]'s blood had been monitored. Had that continued

right through the night, did you know, or had the situation changed?

GRIFFITH: From what I recall, Tracey said, I think it was, she'd done three or four readings during the night.

ASTBURY: And how had they gone?

GRIFFITH: They were all on the low side.

ASTBURY: Okay. Had she carried them out right throughout the shift for the whole --

GRIFFITH: As far as I can remember, yes.

ASTBURY: Can we have a quick look, please, at tile number 55.

This is a form I'm sure you will be familiar with.

If we scroll down, we can see on the right-hand side, just below halfway in the box of readings, we can see one reading with a circle round it followed by two more, with the words "BM" and "pre" above.

GRIFFITH: Yes.

ASTBURY: Did Tracey draw these to your attention at all?

GRIFFITH: Yes. We would have gone through all the charts at handover.

ASTBURY: So it was on that basis you began your shift?

GRIFFITH: Yes.

ASTBURY: Were you aware whether those readings had continued in the early hours of the morning? Would you have expected them to with those sort of readings?

GRIFFITH: I'd have expected them to be monitored, yes.

ASTBURY: Right. When you took over, we can see from that form and indeed the subsequent form that [Baby L] was receiving fluids intravenously.

GRIFFITH: Yes.

ASTBURY: Were you involved with his intravenous fluids at all when you first took over your shift?

GRIFFITH: Yes, I'd have been responsible for them, yes.

ASTBURY: Perhaps -- I wonder if we can look at the next feeding chart, please, which is 203, I think, is my note. We'll have a look at the feeding chart, please.

First of all, if we look at the bottom row, can you identify your signature or initials there?

GRIFFITH: Yes.

ASTBURY: There should be a cursor with the mouse. Could you just -- if you use the mouse, could you show us where the first of those initials are, please?

GRIFFITH: There (indicating).

ASTBURY: So that would be consistent, if we look at the top, with 08.00 when you've taken over?

GRIFFITH: Yes.

ASTBURY: Thank you. Does your initial record at the start of your shift inform you what you did with those fluids?

GRIFFITH: I monitored the blood sugars, reported to the doctors and the fluids would have been altered to manage the results.

ASTBURY: So looking at that, can you confirm that in addition to the fluids, [Baby L] was receiving milk?

GRIFFITH: Yes.

ASTBURY: Would you, in addition to monitoring his fluids, have been feeding him that milk --

GRIFFITH: Yes.

ASTBURY: -- as his designated nurse? And do those entries next to "feeds" and -- is that donor-expressed milk?

GRIFFITH: Yes.

ASTBURY: Do they represent the feeds that you gave him via an NGT tube whilst you were working?

GRIFFITH: Yes.

ASTBURY: Thank you. [Baby L] was fed milk initially every 2 hours, but it would seem, is that later in your shift, it became more regular?

GRIFFITH: Yes, it became hourly, looking at the chart, yes.

ASTBURY: The fluid -- what can you tell us, please, about the fluid bag and the dextrose that he was receiving? How was that fed to the baby?

GRIFFITH: Via a cannula.

ASTBURY: We've heard about bags being hung.

GRIFFITH: Yes.

ASTBURY: Is that a term that you would use?

GRIFFITH: Yes, they hang on a stand.

ASTBURY: It's a bag of fluid that hangs on a stand. Is there a pump --

GRIFFITH: Yes.

ASTBURY: -- which regulates the rate at which it's delivered to the baby?

GRIFFITH: Yes.

ASTBURY: We've heard about a giving set.

GRIFFITH: Yes.

ASTBURY: Is the giving set that which joins the bag to the cannula?

GRIFFITH: Yes, via the pump.

ASTBURY: With a filter at the end?

GRIFFITH: Yes.

ASTBURY: When you talk about adjusting his fluids, is that through the pump at this stage --

GRIFFITH: Yes.

ASTBURY: -- as opposed to the bag itself?

GRIFFITH: Through the pump.

ASTBURY: Those bags of dextrose, are they stored on the unit?

GRIFFITH: Yes.

ASTBURY: Do they come in pre-made concentrations?

GRIFFITH: Yes.

ASTBURY: What are those standard concentrations, please?

GRIFFITH: Five and 10%.

ASTBURY: Right. Where we see a baby receiving more than 10% by way of concentration of glucose, does that mean that the bag has to be adjusted in some way?

GRIFFITH: Yes.

ASTBURY: And how is that done, please?

GRIFFITH: By getting a new bag -- you do it sterilely, ie gowns, glove, mask. You get a new bag of fluids and withdraw so much of, say, your 10%, and then you add the measured amount of 50% to get it to the right proportion, all of which is worked out by pharmacy.

ASTBURY: Can we return to that in a minute because I'm going to ask you in a bit more detail about that process because I think there came a point in the shift where that became necessary; is that right?

GRIFFITH: Yes.

ASTBURY: Okay. I don't want to run ahead too quickly. Can we look at tile 98, next, which is your note of the shift.

I'd like to go through that with you before we break it down into individual entries. It runs across two pages.

If we can look at the start of the note, please, we can see your initials. This is made in retrospect, is that right, at the end of the day shift?

GRIFFITH: Yes.

ASTBURY: Was it a busy day shift?

GRIFFITH: Yes.

ASTBURY: So we can see there the note began at 20.58 and ended at 21.25. I'm going to go through it with you if I may:

"Care taken over at 07.45. Equipment alarm, limits and fluids checked. At start of shift baby self-ventilating in air.

Observations stable and satisfactory. Fluids increased to 75ml per kilogram."

Is what we were talking about before with the pump, is that an adjustment on the pump?

GRIFFITH: Yes.

ASTBURY: "2 times 12 and tolerated."

Are they the milk feeds --

GRIFFITH: Yes, they are the milk feeds.

ASTBURY: -- each 2 hours and obviously 12 in any 24-hour period?

You've noted that [Baby L] passed meconium and urine.

GRIFFITH: Yes.

ASTBURY: Then at 10 o'clock:

"Blood taken for SBR and blood sugar."

GRIFFITH: Yes.

ASTBURY: SBR, is that the bilirubin level?

GRIFFITH: Yes.

ASTBURY: Was [Baby L] being treated for jaundice?

GRIFFITH: Yes.

ASTBURY: So that's being monitored. You've also, is this right, taken a test for checking the blood sugar at 10?

GRIFFITH: Yes.

ASTBURY: Of the SBR, you entered -- is that:

"58 and not far enough below the line, so phototherapy continued"?

GRIFFITH: Yes.

ASTBURY: So the reading was such that the treatment carried on?

GRIFFITH: Yes.

ASTBURY: It wasn't at a sufficient level to stop that?

GRIFFITH: Yes.

ASTBURY: You recorded the blood sugar at 1.9. What does that tell you, that sort of figure?

GRIFFITH: That the blood sugar was low and needed some intervention.

ASTBURY: And hence, I think your next entry:

"Intravenous dextrose increased to 2ml per kilogram"?

GRIFFITH: Yes.

ASTBURY: Is that increased by 2ml per kilogram?

GRIFFITH: No, it says "increased to".

ASTBURY: Okay. Again, is that a setting on the pump?

GRIFFITH: Although that doesn't read right -- yes.

ASTBURY: Okay. But it represents an increase, does it?

GRIFFITH: Yes.

ASTBURY: You then repeated the blood sugar at 11?

GRIFFITH: Yes.

ASTBURY: And is this right, despite the additional dextrose, it's lower --

GRIFFITH: Yes.

ASTBURY: -- at 1.6.? Is that, in your experience, what you would expect to find when you've given the baby more sugar?

GRIFFITH: With prems you never know which way it'll go, but it was quite a shock. I didn't expect it to have fallen.

ASTBURY: Right. Is this right, as a consequence that intravenous dextrose was further increased, according to your note, to 3ml per kilogram?

GRIFFITH: Yes.

ASTBURY: So that's the reading at 11. You've then put:

"Blood sugar 1 hour later, 1.6."

So same level again --

GRIFFITH: Yes.

ASTBURY: -- despite the further increase?

GRIFFITH: Yes.

ASTBURY: What time, it might seem obvious, would that test have been?

GRIFFITH: Um... It'd probably have been -- the other one was at 11. It probably would have been 12, I would have thought.

ASTBURY: Okay. Your entry then is:

"Blood taken for lab..."

GRIFFITH: Yes.

ASTBURY: "... but due to emergency not podded at once."

So who would have taken that sample?

GRIFFITH: I would have taken it. But because I was in nursery 1, someone else would have been responsible -- it'd have been handed to someone else to pod.

ASTBURY: Just dealing with the first part, how would you have taken it?

GRIFFITH: A heel prick.

ASTBURY: Okay. How many samples would you have taken at that stage, do you know?

GRIFFITH: If it was just for the blood sugar, one.

ASTBURY: If you're testing for other things, do you have to take more than one?

GRIFFITH: It depends what you're testing for as to how many bottles you need.

ASTBURY: Do you have any recollection of how many samples you took?

GRIFFITH: No.

ASTBURY: All right. What time do you think you did -- you took that sample?

GRIFFITH: I don't know unless it was on the notes.

ASTBURY: Okay. In those circumstances and in your experience, how urgent is the taking of that blood sample?

GRIFFITH: Well, very urgent. I mean, he was having hourly blood sugars, so the likelihood is that would have been taken an hour after the last one.

ASTBURY: So you've taken three readings. The third reading has prompted the requirement for a lab test?

GRIFFITH: Yes.

ASTBURY: Who would have ordered the lab test?

GRIFFITH: The doctors.

ASTBURY: Do you happen to remember which doctor in this particular case?

GRIFFITH: No.

ASTBURY: Okay. You'd have taken it?

GRIFFITH: Yes.

ASTBURY: You'd have treated it as -- would you have treated it as urgent?

GRIFFITH: Yes, yes.

ASTBURY: Forgive me, I've no idea, but in these circumstances urgent could mean different things to different people.

Are we talking before the end of the shift, are we talking in the next 30 seconds or somewhere in between?

GRIFFITH: Somewhere in between. The reason it was going to the lab was sometimes our machines on the unit, if they're not calibrated right and if you have several low readings, you send it to the lab to see what the lab's going to say, if it's going to agree or if it's the machines on the unit that might not be...

ASTBURY: Okay. So in situations such as this, what would your practice normally be? How soon would you hope to have done it?

GRIFFITH: Well, I hoped it would have gone, but after this I was called to another emergency, so I was unaware that it hadn't gone.

ASTBURY: That emergency came, what, after or before you'd taken the blood?

GRIFFITH: After.

ASTBURY: All right. So just concentrating on the period between midday and that emergency, are you able to help us with how soon you expect you'd have taken it, the sample?

GRIFFITH: No, I can't, not this far back.

ASTBURY: Do you remember anything about the emergency that you were called to?

GRIFFITH: Yes.

ASTBURY: We may come to it again shortly but what was the emergency you were called to?

GRIFFITH: His twin brother collapsed.

ASTBURY: So you'd taken the sample. You said you handed it to someone else to pod; is that what you told us?

GRIFFITH: Yes.

ASTBURY: Just tell us a little bit about podding before we move on.

GRIFFITH: It's an air-driven system and it goes into a plastic pod and there's a chute and it goes straight to the lab.

ASTBURY: Like supermarkets used to have for cash --

GRIFFITH: Yes.

ASTBURY: -- in a capsule? Okay. So you'd have handed it to someone else to do that?

GRIFFITH: Mm.

ASTBURY: All right. When the emergency happened, had you handed it over at that point? Was that why there was a delay?

GRIFFITH: I've no idea. I can't remember that far back.

ASTBURY: Okay. So the emergency that caused the delay was the events with [Baby M]?

GRIFFITH: I suppose so. I mean, I wasn't aware that it hadn't been podded until I dealt with his brother and realised that the results had only just come on to the system.

ASTBURY: Okay. Do you know where the blood would have been in that period of time?

GRIFFITH: No.

ASTBURY: Again, we'll come to [Baby M] in a moment, but just concentrating on this blood sample, you said you didn't know that it hadn't been podded until after [Baby M]'s incident.

GRIFFITH: Yes. A colleague took over the care of [Baby L] because obviously I couldn't deal with two sick babies at the same time, so a colleague took over his care while I dealt with the other twin and then later in the shift I took him back.

ASTBURY: I just want to focus on the blood first, please, and then we'll come to that. So taken before [Baby M]'s collapse?

GRIFFITH: Yes.

ASTBURY: But not podded until after the collapse when you became aware it hadn't been done?

GRIFFITH: I can't guarantee that because, as I say, I was tied up elsewhere. All I know is the blood was taken. I can't enlarge any further on it.

ASTBURY: Okay. Do you happen to know who podded it?

GRIFFITH: No.

ASTBURY: Can I ask you to look, please -- were you made aware of the results of that blood test at any point on your shift?

GRIFFITH: Not until later on in the evening.

ASTBURY: When you took the sample, do you remember what sort of vessel it would have gone into?

GRIFFITH: A blood bottle.

ASTBURY: And having taken the sample, what do you do with the blood bottle?

GRIFFITH: Put it in a paper envelope with a sticky label with the child's details on.

ASTBURY: So you take the sample -- is it in a vial? I'm imagining a vial.

GRIFFITH: Yes, a small vial, a plastic bottle.

ASTBURY: Is the vial itself labelled?

GRIFFITH: Yes.

ASTBURY: With what?

GRIFFITH: The patient's details.

ASTBURY: Is that something that's done at the time the test is taken?

GRIFFITH: Yes.

ASTBURY: So blood is taken into the vial, label on the vial?

GRIFFITH: Yes.

ASTBURY: Then goes into a bag?

GRIFFITH: Yes.

ASTBURY: Again, does this happen when the sample's just been taken or does this take place further down the line?

GRIFFITH: Usually when it's taken and the -- it would have been ordered -- the thing for the lab would have been ordered and you get a sticky label that you put on there with all the details and the lab number and then it goes off to the lab.

ASTBURY: So the blood test is ordered by the doctor?

GRIFFITH: Yes.

ASTBURY: This document that you tell us with the sticky label on is generated?

GRIFFITH: Generated, yes.

ASTBURY: Do you get that before you take the blood test?

GRIFFITH: It depends.

ASTBURY: You take the blood test, you put a label on the vial itself. You put it in a bag and is it a different type of label that goes on the bag?

GRIFFITH: It's just a large sticky label that comes off the printer.

ASTBURY: What's on the label?

GRIFFITH: The child's name, hospital number, what's required and the details of the doctor, whoever's ordered it.

ASTBURY: Who checks that the relevant label is going on the right vial?

GRIFFITH: The person who's taken the blood.

ASTBURY: Is that what you'd have done on this occasion?

GRIFFITH: Oh yes, yes.

ASTBURY: Sorry, I thought I'd covered this, but when that document with the sticker on is generated, who generates it?

GRIFFITH: The order is done for -- whatever test you want is done on the computer and then it's automatically generated as the order is done and it comes off the printer.

ASTBURY: And where is the printer?

GRIFFITH: At the side of the computer.

ASTBURY: And where's the computer?

GRIFFITH: It depends which one you use. It could be in one of the nurseries or at the nursing station.

ASTBURY: But it's within the NNU?

GRIFFITH: Oh yes, yes.

ASTBURY: All right. So you've helped us with the process and how it's labelled and how it's podded. Tell us then, please, about what happened with [Baby M]. Where were you, can you recall?

GRIFFITH: In nursery 1 with him.

ASTBURY: Okay. Do you recall what you were doing at the time that [Baby M] collapsed?

GRIFFITH: Yes. I was making a 12.5% dextrose for his brother.

ASTBURY: I think we touched on this earlier on. You told us that the bags have a preset concentration.

GRIFFITH: Yes.

ASTBURY: If it's to be increased, there has to be a procedure undertaken by one of the nurses on the unit?

GRIFFITH: Yes.

ASTBURY: And the calculations come from the pharmacy?

GRIFFITH: Yes.

ASTBURY: A new bag has to be used because, did you say, you don't know how much is --

GRIFFITH: You don't know how much is in the old bag so you don't know if you're going to get the right concentration, so you have to take a new bag.

ASTBURY: So you have to get a new bag and then you have to carry out the process of, what, adding something?

GRIFFITH: You have to become sterile. So you gown, glove, mask.

You remove so much of the 10% dextrose that's in the bag, a measured amount which the pharmacy's told you, discard that, and then from a bottle of 50% dextrose, you withdraw so much and add to the 10% bag, mix it, and then you end up with 12.5%.

ASTBURY: I'm going to ask you to pause there. We've seen a video of this and I'm going to play it again. I'd like you to watch it and confirm if it's the process you're describing to us, please.

(Video played to the court)

So is that the process that you were describing to us?

GRIFFITH: Yes.

ASTBURY: And that's the process you were undertaking in nursery 1 when [Baby M] collapsed?

GRIFFITH: Yes.

ASTBURY: All right. I think you mentioned that you have to -- you're sterile; is that right?

GRIFFITH: Yes.

ASTBURY: What does that involve, please?

GRIFFITH: Rigorous handwashing, mask, gloves and an apron, and I would have been working on a trolley with a sterile towel.

ASTBURY: How long does it take you to become sterile? Does it take...?

GRIFFITH: Oh, I don't know, 10 minutes, I suppose, if you wash your hands thoroughly.

ASTBURY: So 10 minutes before the procedure starts?

GRIFFITH: Mm-hm.

ASTBURY: Was that a fair estimate when we watched the video of how long the process takes?

GRIFFITH: No, but you didn't see her gown-up.

ASTBURY: Of course. Apart from the gowning-up?

GRIFFITH: Yes, yes, yes.

ASTBURY: How long do you think you were occupied between gowning-up, finding the calculations, and starting to transfer the stronger solution into the --

GRIFFITH: I wouldn't know. It's impossible to remember things like that.

ASTBURY: All right. Could you just confirm, who was doing that?

GRIFFITH: I was doing the procedure.

ASTBURY: What happened then when [Baby M] collapsed?

GRIFFITH: Lucy Letby was with me because she was my checker, so she wouldn't have been gowned up. His alarms went, so she went to see what the problem was, because obviously I was sterile. And she said, "We need help over here".

At that point Belinda Simcock was in the nursery, so she said to me, "Mary, you go and sort the other twin out and I'll make sure that this is finished and goes up", and she took over the care of [Baby L] at that point because obviously I couldn't be concerned with two potentially unstable babies.

ASTBURY: Lucy was in the room when it happened?

GRIFFITH: Yes.

ASTBURY: Had she been in the room while you'd been gowning-up?

GRIFFITH: Well, yes, she'd have been with me the whole time because it's a two-check procedure.

ASTBURY: But only one person can --

GRIFFITH: Only one person does it, yes.

ASTBURY: -- (overspeaking) the glucose into the bag. We saw on the video that the glucose was delivered using a syringe into a port.

GRIFFITH: Yes.

ASTBURY: Do all the dextrose bags have that port for delivery?

GRIFFITH: Yes.

ASTBURY: And what happens, we can see the syringe go in, what happens when the syringe is drawn out?

GRIFFITH: It self-seals.

ASTBURY: Okay. Presumably, with a new bag having been prepared, and you told us that Belinda came in and took over, is that when -- would that new bag then have been hung while you were or shortly after you were dealing with [Baby M]?

GRIFFITH: Yes.

ASTBURY: What's the procedure with the giving set that you mentioned to us earlier? Would that be changed as well or not?

GRIFFITH: Yes.

ASTBURY: I'm going to ask you to look at a form with the results of the blood gas on in a minute. But before I do, can I just go back to the process whereby the sample is taken and the labels are generated just so I understand it, please.

GRIFFITH: Yes.

ASTBURY: You told us that the doctor orders the blood test.

GRIFFITH: Yes.

ASTBURY: Who goes on to the computer to generate the necessary actions thereafter?

GRIFFITH: Well, whoever's ordering the blood. Some of the nurses can order it, depending what the test is. The order goes in and the form is automatically generated.

ASTBURY: Okay. But what I'm asking is who goes on the computer to set that train in motion?

GRIFFITH: Whoever's ordering.

ASTBURY: Right, okay. Is it always the nurse?

GRIFFITH: No. For some tests, it's the doctors that do it. It just depends. It could be a doctor or some nurses can do it.

ASTBURY: It's only after that's been entered into the computer by the doctor or the nurse that the documentation is printed?

GRIFFITH: Yes.

ASTBURY: Including the labels?

GRIFFITH: For the label on the bottle you can use a patient label.

ASTBURY: Okay. Was it your practice to put that label on before or after the blood was entered into the vial?

GRIFFITH: After.

ASTBURY: Would you have it available when you'd taken the blood?

GRIFFITH: Yes.

MR JUSTICE GOSS: Mr Astbury, we're coming up to break time.

I don't know how long you're likely to be. Unless you're going to be a few minutes, I think we'll have the break now.

MR ASTBURY: Thank you.

MR JUSTICE GOSS: If that's a convenient time. All right.

We just have a ten-minute break in the middle of the morning, so you may have a ten-minute break. Thank you very much.

Ten minutes then, please.

(11.52 am)

(A short break)

(12.02 pm)

MR ASTBURY: You helpfully, Nurse Griffith, took us through that process that was going on in nursery 1 at the time that [Baby M] collapsed. And before I move on, could we just have a look, please, at the events of the afternoon that led you to that point where the dextrose bag was having to be increased further. If we can go to tile 97, please, Mr Murphy.

Earlier, we identified your initials at the bottom of that particular document and we can see that by reading up, your entries span from 08.00 until 15.00; is that right? They are certainly your initials and then I think a couple afterwards later in the shift.

Somebody's helped at 16.00, have they?

GRIFFITH: Yes.

ASTBURY: Then you continue for another three entries there?

GRIFFITH: Yes.

ASTBURY: I'm looking in the leftmost column where you've handwritten "BMs". Can you see that? It's about three-quarters of the way down.

GRIFFITH: Yes.

ASTBURY: And you've handwritten "BMs". Then there are a series of readings across the afternoon or the day shift. I'd just like to go through those with you. You have told us about some of the entries, the 1.9 at 10. You told us about a 1.6 at 11, which isn't on there, but you put in your nursing notes. There's another 1.6 at 12 o'clock; is that right?

GRIFFITH: Yes.

ASTBURY: By 2 pm, with a combination of milk and fluids, it's up to 2; is that right?

GRIFFITH: Yes.

ASTBURY: But then we see it falls back again, 1.5, 1.5, that's 4 o'clock. You've told us that round about that time, it was decided that the sugar had to be increased in the fluid intake.

MR JUSTICE GOSS: If you go to the top, "Fluid, 17.00", and see what's written just underneath there.

MR ASTBURY: Yes. We've got an arrow under the 16.00. Does that mean anything?

GRIFFITH: I didn't have charge at that time because I didn't put the 12.5% up, I was busy with the other twin.

ASTBURY: Right, okay. The 5.9, what does that represent, please? That's the new rate of delivery, is it?

GRIFFITH: Rate, yes, the new rate of millilitres per hour.

ASTBURY: So in addition to the increase in the concentration of dextrose in the bag, the rate of delivery was increased to 5.9; is that right?

GRIFFITH: That's what the chart shows, but I would have had nothing to do with it at that stage.

ASTBURY: Okay. Again, just concentrating on the afternoon, please, before we leave it, could I ask Mr Murphy to go to tile 149.

That's your administration to [Baby L] at 15.34 of what we know to be an antibiotic; is that right?

GRIFFITH: Yes.

ASTBURY: Yourself and Lucy Letby administering there, both in room 1, as we heard?

GRIFFITH: Yes.

ASTBURY: I'm not going to go behind it because I think we've heard it before, but is there any significance in whose name goes first on the computer and who appears as co-signer?

GRIFFITH: No.

ASTBURY: At the same time, the next tile, would that be a saline flush after the delivery of the antibiotics?

GRIFFITH: Before and after.

ASTBURY: Right. Thank you. Could we go to tile 115, please.

I'm trying to stay in time order. If we look at the prescription chart, the infusion prescription chart again. Could you explain, please, the entry at -- is that 12.00 or 12.10, can you recall? If we go halfway down or so, there's an entry there with a time.

It may not matter too much, but it's either 12.00 or 12.10. Can you assist?

GRIFFITH: I can't see where you are, to be honest.

ASTBURY: There's a cursor.

GRIFFITH: Oh there. I have no memory of that. My signature is there.

ASTBURY: Is that your handwriting, I should really ask?

GRIFFITH: Yes, that's my signature there, but --

ASTBURY: That's your signature. The second of those is your signature; is that right?

GRIFFITH: Yes.

MR JUSTICE GOSS: But is the writing of the numbers your writing? Do you recognise that or not?

GRIFFITH: I don't think so, no. It doesn't look like my writing.

MR ASTBURY: Thank you. Just so we're clear, what does that entry relate to? We can read across to 10% dextrose.

GRIFFITH: It will be the increased amount that we were to run the drip at.

ASTBURY: Okay. Then the next line, timed at 15.35 on the left anyway, is that a bolus?

GRIFFITH: Yes.

ASTBURY: Again, if we read across, can we see again your signature?

GRIFFITH: Yes.

ASTBURY: Do you recall who you administered that with?

GRIFFITH: Lucy Letby.

ASTBURY: That's at 15.40?

GRIFFITH: Yes.

ASTBURY: Reading down, at 16.30 does that appear to be that new bag that you were in the process of preparing?

GRIFFITH: Yes.

ASTBURY: And whilst it's not your signature, would you expect that time to be the time that the bag was hung?

GRIFFITH: I have no idea. I didn't have anything to do with that.

ASTBURY: I did preface it with that, but if you just have no idea so be it.

I'd like you to look next, please, at a form at tile 189. If we look at that form, it appears to show the results of the blood tests that have been taken some time that afternoon. Is that a form you recognise?

GRIFFITH: Yes.

ASTBURY: Just scrolling down, I'm obviously interested in the entries on 9 April when you were on duty. If I can ask you, I think in fact the only entries while you were on duty are 18.26 and 18.29. Do you recognise the handwriting in those entries?

GRIFFITH: No.

ASTBURY: Is that the type of form a nurse would fill in or a doctor?

GRIFFITH: Either could fill it in.

ASTBURY: Right. What is it designed to do, what's the purpose of that form?

GRIFFITH: Well, to record the results of blood tests.

ASTBURY: Okay. Looking at that, it records specific blood tests?

GRIFFITH: Yes.

ASTBURY: So when the doctor orders the blood test, does the doctor specify which things are to be tested for and which aren't?

GRIFFITH: Yes.

ASTBURY: That presumably is the decision of the doctor?

GRIFFITH: Yes.

ASTBURY: And is that information that has to be input on the computer when generating the sticker and the form that you told us about earlier?

GRIFFITH: Well, they put on what they want, yes. Some of these could have been done on the ward machine though.

ASTBURY: Just concentrating on these lab results that we have, the point is that not every test is undertaken with every blood test, is it?

GRIFFITH: No.

ASTBURY: The doctor specifies which tests are to be undertaken?

GRIFFITH: Yes.

ASTBURY: And those tests, do they have to be specified when the entry is made on to the computer that you told us about earlier?

GRIFFITH: Yes, if they're done in the lab, yes.

ASTBURY: Then the paperwork and the sticker that that generates, do they represent the specific tests to be undertaken?

GRIFFITH: Yes, it's on the form.

ASTBURY: Is that why the nurse needs to have it, so they know what is to be tested for?

GRIFFITH: Yes, because you need to -- different tests have different blood bottles with different preservatives in.

Some don't have preservatives in. So if you put it in the wrong bottle then they won't be able to do the appropriate test.

ASTBURY: So you have to have access to that before you take the sample?

GRIFFITH: I mean, the doctor will probably say to you, "I want bloods for this, this and this", so you can get ready for it before the form comes, but you need to know what you're sending to the lab to know the appropriate bottles to put it in.

ASTBURY: And is that why you told us before you would have it to hand before you took the sample?

GRIFFITH: Either to hand or at least a record of what they needed.

ASTBURY: Okay. Just completing your shift, tile 195, please, Mr Murphy. I think you told us earlier that after the emergency with [Baby M], you returned to caring for [Baby L]; is that right?

GRIFFITH: Yes.

ASTBURY: I just want to look at an entry at 19.00, please.

Is that an entry you recognise again?

GRIFFITH: It's my signature, yes.

ASTBURY: Just tell us what happened at 7 o'clock, please.

GRIFFITH: It looks as if the rate of the infusion was changed.

ASTBURY: So an increase again in delivery?

GRIFFITH: Yes.

ASTBURY: Can we just, please, complete your entries on our sequence of events by going to tile 209. We don't need to go behind it. That's when you began to make your notes, I think, after the shift had concluded?

GRIFFITH: Yes.

ASTBURY: In fact, if we look at that one, please, because I think there are a couple of entries. I'll just check there's nothing new behind that that we haven't covered.

Yes, in fact that's when you began your note.

GRIFFITH: Yes.

ASTBURY: Finally, if we can look at 216, please. I think it's probably on the second page, Mr Murphy. Thank you.

We have a family update timed at 21.25:

"Parents have visited and been kept updated. Both parents have had cuddles."

So that's, I think, your final note of that particular day?

GRIFFITH: Yes, probably, yes.

ASTBURY: So that's 9.26?

GRIFFITH: Yes.

ASTBURY: Okay. Can I finally ask this: how many times would [Baby M]'s bag have been changed during the course of your shift between 19.19 when you arrived and 9.25 when you left?

GRIFFITH: Only --

ASTBURY: Sorry, [Baby L]. How many times would [Baby L]'s bag have been changed?

GRIFFITH: Only when the 12.5% went up.

ASTBURY: Did you at any point whilst on the ward that day administer [Baby L] with insulin?

GRIFFITH: No.

ASTBURY: Are you aware of anybody else having done so?

GRIFFITH: No.

MR ASTBURY: Thank you. If you could wait there, please.

Cross-examination by MR MYERS

MR MYERS: Mrs Griffith, I would like to start by asking some questions about the nursery generally that day.

I'm going to ask Mr Murphy to put up on the screen tile 88 for us to start with, which shows who was where.

If we can go down to the picture, I'd be grateful, please. Thank you.

There's 15 babies on the unit that day, just doing a quick count there. Do you recall whether it was a particularly busy day or not or do you have no recollection of that in particular?

GRIFFITH: It was busy in 1. I don't know what was going on outside.

MYERS: Busy in 1. In 1, there was you looking after [Babies L & M]?

GRIFFITH: Yes.

MYERS: And Ms Letby looking after babies GT and TSB. Do you recall whether it was necessary for [Baby M] to be slotted into a space because there wasn't a normal cot space for him or do you have no recollection of that?

GRIFFITH: He was across a corner, which we don't usually like to use, but it's not unusual.

MYERS: Why would it be that you might have to put a baby in a position like that?

GRIFFITH: Space.

MYERS: Because the nursery is full of other babies at that time?

GRIFFITH: And equipment, yes.

MYERS: Just with regard to the other baby in the nursery, one of the others, the one whose initial is GT, do you recall whether the mother and the father of GT were present in the nursery that day? Do you have any recollection of that?

GRIFFITH: No.

MYERS: I'm just going to ask you -- really to look at with you a note that comes from the papers for GT. I don't expect you to recall this, but just to assist. It's D17, Mr Murphy, please, page 30652 for anyone keeping a track of pages on the exhibits. It comes from the notes for the baby GT.

If we scroll down, please, Mr Murphy, to the entry at 09/04/16, 20.15. We've sought to redact the details of the baby so we just have the initial. There's a note on the system at 20.15, entered by Lucy Letby. We know Lucy Letby was looking after GT that day, Mrs Griffith.

GRIFFITH: Yes.

MYERS: It's a note at the end of the shift that we're dealing with. Can you see that? 20.15, if you look under family communication.

GRIFFITH: Yes.

MYERS: All right. So this says the following:

"Parents visiting carrying out feeds and cares. Mummy left the unit 12.14. At 16.00 parents were asked to leave the nursery due to a sick baby needing treatment. Parents were understanding of this and left for the evening. Will telephone later."

Pausing there, where there's reference to:

"At 16.00 parents asked to leave the nursery due to a sick baby."

That coincides, actually, with the time that [Baby M] became unwell, doesn't it?

GRIFFITH: Yes.

MYERS: Do you recall now, as you cast your mind back, parents being asked to leave at the point that [Baby M] became unwell?

GRIFFITH: No.

MYERS: But is that something that would happen if parents were present?

GRIFFITH: Yes, because the nurseries are very small.

MYERS: Right:

"Mum initially concerned over the way I had dressed the cannula. She wanted me to place tape encircling the whole of G's arm from wrist to elbow. Explained this was not good for G's circulation and skin. Mum then placed a small amount of tape between the baby board and the arm which I have left in place."

As of 20.15 it says:

"Parents now visiting. Pleased with move back to nursery 3."

If we just move across to the other side of this table -- page from the papers, please, Mr Murphy, the opposite face of the page.

Just looking at the top there, where there's a short summary, can you see it says 9 April 2016:

"Parents visiting throughout the day"?

GRIFFITH: Yes.

MYERS: "Parents visiting for all cares last evening."

GRIFFITH: Yes.

MYERS: Do you recall whether at any point [Baby L] or [Baby M]'s parents were present in nursery 1? Do you have any particular recollection of that?

GRIFFITH: Sorry?

MYERS: Do you have any recollection of whether or not [Baby L] and [Baby M]'s parents or family were present in nursery 1 that day?

GRIFFITH: Yes.

MYERS: Were they present during that day at points?

GRIFFITH: Yes.

MYERS: So that we can all get the picture, in addition to the staff working, it sometimes happens, doesn't it, that there might be family members that come on because they want to be there or because they are assisting?

GRIFFITH: Yes.

MYERS: Thank you for putting that up, Mr Murphy, we can take that down now.

Turning next to how [Baby L] was when you started the shift, Nurse Griffith, whatever the situation with the blood sugar, did he appear to be fairly stable to you?

This is [Baby L] I'm talking about.

GRIFFITH: Yes. Apart from the blood sugars, yes.

MYERS: And in fact, both twins appeared to be stable at the start of the shift, didn't they?

GRIFFITH: Yes.

MYERS: But I think, do you agree, from your experience things can change very rapidly with premature babies, can't they?

GRIFFITH: They have to be very closely watched, yes. They change very quickly.

MYERS: When you gave some evidence earlier, you were asked some questions about the monitoring that had taken place throughout the night before your shift began. Do you remember being asked about that?

GRIFFITH: Yes.

MYERS: And you believed that monitoring had taken place throughout the night. Was that your understanding?

GRIFFITH: Um... yes.

MYERS: Could we put up tile 66, please. We know this is not your entry on the feed chart, so don't worry. It's 8 April 2016. You

were taken to the right-hand side of this table where we had blood sugar readings of 2.3, 2.2 and 3.6. Can you see those?

GRIFFITH: Yes.

MYERS: The cursor is just moving there.

GRIFFITH: Yes.

MYERS: We know that's the agency nurse Tracey Jones looking after [Baby L] at that time.

GRIFFITH: Yes.

MYERS: When you gave your evidence, you said that you would have expected these or this to be monitored, wouldn't you --

GRIFFITH: Yes.

MYERS: -- given [Baby L]'s -- the issue with blood sugar; is that correct?

GRIFFITH: Yes.

MYERS: Of course, you're not the one who was on at this time, you're not the one doing monitoring, you're only going off things you were told. But with that in mind, could we look then at tile 97, which follows on?

If we pause there. We're now on 9 April. We can see that the first blood sugar reading that's actually monitored is the one at 10.00 when you're on duty, the reading of 1.9. Do you see that?

GRIFFITH: Yes.

MYERS: So in fact, there's nothing on the chart that tells us, is there, what [Baby L]'s blood sugar was doing between midnight and 10 o'clock?

GRIFFITH: No.

MYERS: And although you would expect a baby like [Baby L] to have his blood sugar monitored over those night-time hours, it appears that it was not monitored. Do you agree, from what you see here?

GRIFFITH: Some units believe that if you have several high readings, that you can stop taking the readings unless the baby shows signs of needing them to be done.

MYERS: All right. But certainly then from what we see here, there's no reading before the one we reach with you when you were on duty at 10 o'clock?

GRIFFITH: No.

MYERS: We can see, just following it through, looking at the blood sugar readings, a variety going down as low as 1.5 in fact, around 15.00 and 16.00.

GRIFFITH: Yes.

MYERS: And increasing later on into the day a little bit, isn't it?

GRIFFITH: Yes.

MYERS: But in fact, from what you saw of [Baby L], he was stable on observations, wasn't he, in fact?

GRIFFITH: Yes.

MYERS: And if we look at tile 89, please, which shows the observations over this same period. It would help to pull out, if we may, so Mrs Griffith can see the whole chart. Thank you.

Can you see, Mrs Griffith, we've got 9 April 2016 --

GRIFFITH: Yes.

MYERS: -- written at the centre? Your shift was beginning at about 08.00, wasn't it?

GRIFFITH: Yes.

MYERS: And it would have run through to the 20.00 reading as we go to the right-hand side, wouldn't it?

GRIFFITH: Yes.

MYERS: And whatever the position with the blood sugar, in fact from observations there's nothing remarkable about what you see with [Baby L], is there?

GRIFFITH: No.

MYERS: And he appears to be stable?

GRIFFITH: Yes.

MYERS: Thank you. The next item I would like to ask you about is that infusion sheet we've seen with the different bags and the rates. That's at tile 10. I'm going to ask Mr Murphy to put that up next, please.

Just to go through this with you, Mrs Griffith, the top entry, the top line, we know relates to a bag that was put up on the 8th at 12 o'clock.

GRIFFITH: Yes.

MYERS: That's the top line. And you have no involvement with that, do you?

GRIFFITH: No.

MYERS: The first entry that we have where you're involved is the one six lines down, 9 April. It's the first 9 April entry. Can you see where I'm looking?

GRIFFITH: Yes.

MYERS: Just so we can follow this, it has been signed for, there's your signature and what appears to be Ms Letby's signature when we go across to the right.

GRIFFITH: Yes.

MYERS: And there's a time which you consider to be 12.10, looking at that; is that right?

GRIFFITH: Yes.

MYERS: Can I just confirm with you, does that indicate a change of rate from what you can see or a change of bag?

GRIFFITH: Change of rate.

MYERS: A change of rate. And that's as you would recall this to be from what took place?

GRIFFITH: Yes.

MYERS: And no recollection of it being a bag change at that time?

GRIFFITH: No, the only bag change was the 12.5%.

MYERS: Right. So it's the same bag but the rate has changed?

GRIFFITH: Changed, yes.

MYERS: Then the entry below that, so running through it, does it say 15.40? The cursor is just next to it.

GRIFFITH: It could be -- yes, I think it probably is.

MYERS: 15.40. And that's a bolus of dextrose that was given; is that correct?

GRIFFITH: Yes.

MYERS: Then we get, the next line down, at 16.30 the bag which was going to be put up around the time that [Baby M] had his deterioration?

GRIFFITH: Yes.

MYERS: Thank you. You've explained to us what was taking place with that bag earlier, haven't you?

GRIFFITH: Yes.

MYERS: But in fact, when [Baby M] deteriorated, both you and Nurse Letby went to assist him, didn't you?

GRIFFITH: Yes.

MYERS: She'd been with you as you were preparing the bag beforehand, hadn't she?

GRIFFITH: Yes.

MYERS: It was because the two of you went to do that that you asked Belinda Simcock, Wilkinson as she is now, to take over?

GRIFFITH: She came in and said that's what we were to do because she's our senior.

MYERS: Oh, so she came in and said what was to happen?

GRIFFITH: Yes.

MYERS: Then you and Nurse Letby went to [Baby M] and she took over with the bag?

GRIFFITH: Yes.

MYERS: Do you recall, was it Ashleigh Hudson in fact who assisted her then with the hanging of the bag?

GRIFFITH: I can't remember, to be honest.

MYERS: All right.

GRIFFITH: I would suspect it is because she was the other trained member of staff on.

MYERS: Thank you. I've finished with that table, we can take that down.

MR JUSTICE GOSS: Sorry, just before you do, can I ask one question for clarification. In the right-hand column, the one where the times are written down, you said that in relation to 12.10 you didn't recognise that as your writing. Are any of the timed entries there your writing?

GRIFFITH: I think the 19.00 hours looks a bit like me.

MR JUSTICE GOSS: Right. Thank you. That's all. I just wanted that to be clarified. It's Williamson, not Wilkinson.

MR MYERS: I thought I'd done well to remember it wasn't Simcock, actually.

MR JUSTICE GOSS: You were close!

MR MYERS: I'm going to ask you just some questions about the blood sample next that you've told us about, Mrs Griffith. It's your recollection that that's a sample that was ordered by the doctor; is that correct?

GRIFFITH: Yes.

MYERS: And the person ordering it will fill out whatever it is that goes into the computer to create the label?

GRIFFITH: Yes.

MYERS: As matters stand now, do you have any clear recollection of what time it was that the sample was taken?

GRIFFITH: No. I took the sample and after I'd taken it and handed it over, I have no knowledge of what happened to it.

MYERS: Right. If we look at your notes to see if there's anything that can assist us. It's at tile 98, please.

Just enlarge the bottom right-hand side.

I'm going to go straight to the section we're dealing with, Mrs Griffith, because we've looked at this a couple of times now. Can you see where it says:

"Repeat blood sugar at 11.00, 1.6"?

GRIFFITH: Yes.

MYERS: There was a repeat blood sugar at 11.00, 1.6:

"IV dextrose further increased to 3ml per kilogram."

That's what it says there. Then it says this:

"Blood sugar one hour later 1.6. Blood taken for lab but due to emergency not podded at once."

So that's the section we're dealing with.

When we looked at the neonatal fluid chart, which is at tile 97 -- in fact, can we put up tile 97, please?

Take your time to let our eyes adjust to this. We can see there's a reading of 1.6 in the 12.00 column.

Do you see that? Take your time to see that, Mrs Griffith --

GRIFFITH: Yes.

MYERS: -- just above the cursor.

We've seen in the note there was reference to a blood at 11.00, that was 1.6, and then a blood at 12.00 that is 1.6 and the notes refer to the sample being taken following that entry, that part of the entry.

GRIFFITH: Right.

MYERS: Does that assist at all in gauging whether it would be at or shortly after 12.00 in fact that the blood sample was taken or does that not assist with that?

GRIFFITH: It doesn't assist. I don't remember.

MYERS: All right. But whenever the blood sample is taken, ideally it should be podded as quickly as possible, shouldn't it?

GRIFFITH: Ideally.

MR MYERS: Yes. I'm only pausing because I know there are some matters which we might have to deal with with [Baby M], but we don't have to deal with that now.

That's all that I need to ask you about for the time being, Mrs Griffith. Thank you.

Re-examination by MR ASTBURY

MR ASTBURY: My Lord, two matters arising, please.

Firstly, you were asked about the absence of blood tests between about midnight and when you took over the shift on 9 April. Do you remember why you didn't take any blood tests until 10 o'clock that morning?

GRIFFITH: No.

ASTBURY: Would you have had a conversation with the nurse that you took over from about [Baby L]'s condition in the night?

GRIFFITH: Yes, I was told he was stable.

ASTBURY: Secondly, you told my learned friend that once you handed the blood sample over to your colleague, whoever was to pod it, you didn't see it again.

GRIFFITH: No. I don't know what happened after then.

ASTBURY: When you handed it over, would it have been bearing the sticker with [Baby L]'s details on and the tests that were required to be completed?

GRIFFITH: It might have been in the bag or I might just have handed the main vial over, but it would have had his name and details on the blood vial.

ASTBURY: And those tests that required to be carried out once it was podded?

GRIFFITH: They don't go on the blood vial, they go on the envelope. The vial is so small you can hardly -- you couldn't get all the details on there.

ASTBURY: You could just get his name and his NHS number?

GRIFFITH: Unit number, yes.

MR ASTBURY: I have no further questions. Does my Lord have any questions?

MR JUSTICE GOSS: I don't, thank you very much. You will be coming back to give further evidence.

GRIFFITH: I know.

MR JUSTICE GOSS: You know that. Thank you. In the meantime, please don't talk to anyone about anything to do with this case. Thank you.

(The witness withdrew)

MR DRIVER: May I call Belinda Williamson, please.

MS BELINDA WILLIAMSON (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: Nurse Williamson, you have given evidence before and you're still bound by the oath or affirmation that you took on the last occasion. I'm going to ask you some questions in relation to the patient within the NNU back in April 2016 by the name of [Baby L]. We will no doubt at times touch upon his twin brother [Baby M] but it's in relation to [Baby L] specifically that you've been invited this morning, as I think you're aware.

Did your involvement with [Baby L] on the afternoon of 9 April occur because of an urgent event involving his brother?

WILLIAMSON: Yes.

DRIVER: Where were you when you became aware of [Baby M] requiring urgent attention?

WILLIAMSON: The doorway of nursery 1.

DRIVER: And what alerted you to the urgency?

WILLIAMSON: The alarms going off.

DRIVER: On [Baby M]'s --

WILLIAMSON: Yes, monitor.

DRIVER: Monitor, thank you. At that point in time, were there any members of staff within nursery 1?

WILLIAMSON: Yes, I was talking to Mary and Lucy.

DRIVER: Mary Griffith and Lucy Letby?

WILLIAMSON: Yes.

DRIVER: And you having been alerted by the alarm, what did you do next?

WILLIAMSON: They responded to the alarms, the other two nursing members responded, and then I think I might have called the bleeps when they asked for them to be put out.

DRIVER: Thank you. Let's go back to the point in time where your attention is taken by the alarm. Mary Griffith and Lucy Letby, already within nursery 1?

WILLIAMSON: Yes.

DRIVER: Do you have a recollection of what they were doing at that point in time?

WILLIAMSON: They were making up fluids for [Baby M].

DRIVER: Do you recall seeing them doing that?

WILLIAMSON: Yes.

DRIVER: We understand, and I don't believe for one second it's contentious, that at this point in time Mary Griffith was dressed in sterile mode?

WILLIAMSON: Yes.

MR JUSTICE GOSS: I think you said [Baby M], fluid for [Baby M].

WILLIAMSON: They were making fluids up.

MR JUSTICE GOSS: In fact it was for [Baby L]. There's no dispute.

MR DRIVER: Mary was --

WILLIAMSON: She was the one that was gowned and gloved making them up.

DRIVER: Gowned and gloved. Where was she?

WILLIAMSON: At the -- there's a bench right near the windows of nursery 1.

DRIVER: And she was there?

WILLIAMSON: Yes.

DRIVER: And do you recall where Lucy Letby was?

WILLIAMSON: Stood right next to her.

DRIVER: The alarm at [Baby M]'s monitor sounds?

WILLIAMSON: Yes.

DRIVER: What did you do next?

WILLIAMSON: Lucy responded to the alarm and then she asked for some help so Mary went across because it was Mary's patient and then after that I don't know exactly what happened.

I can't recall.

DRIVER: What did you do?

WILLIAMSON: What did I do? I believe I probably went and notified the in-charge, who was [Nurse B], and I probably would have rung the twos when they asked for assistance.

DRIVER: The twos?

WILLIAMSON: The emergency number for the hospital.

DRIVER: Thank you. So you effectively communicated --

WILLIAMSON: Yes.

DRIVER: -- the need for assistance --

WILLIAMSON: Yes.

DRIVER: -- outwith nursery 1?

WILLIAMSON: Yes.

DRIVER: And having done that, what did you do next?

WILLIAMSON: I know that they needed to do fluids but I also sent -- because I could see what was going on in 1 sent Ashleigh Hudson up the stairs to go and get the parents down.

DRIVER: Pause there if you would. You've communicated the need for assistance outwith nursery 1 with your colleagues and ensured that the baby's parents were informed of the alert --

WILLIAMSON: Yes.

DRIVER: -- with the assistance of Ashleigh Hudson?

WILLIAMSON: Yes.

DRIVER: Then what did you do?

WILLIAMSON: I took over doing the fluids.

DRIVER: Did you do that alone or --

WILLIAMSON: With Ashleigh Hudson.

DRIVER: Whilst [Baby M]'s urgent needs were being catered for, did you thereafter for a short time effectively take over the care for [Baby L]?

WILLIAMSON: Yes.

DRIVER: If we could go to our presentation to help you with such details that you might need. If we go to tile 159, please. Thank you.

If we look to the bottom for the initials of various members of staff. Can you see your own initials as they were then --

WILLIAMSON: Yes.

DRIVER: -- recorded there?

WILLIAMSON: Yes.

DRIVER: And there's a mouse in front of you. If you could control that and the cursor. Could you take us to it?

WILLIAMSON: That one there (indicating).

DRIVER: If we go up the column to see the corresponding time, we'll see --

WILLIAMSON: So that's -- yeah.

DRIVER: All the way to the top, we see that's 16.00 hours.

WILLIAMSON: Yes.

DRIVER: If we come out of this tile for a moment, Mr Murphy, and look at the next tile, we can see that [Baby M]'s records inform us that his event, his collapse, was timed at about 16.00 hours. So although they are in this sequence, we're talking about events that occurred simultaneously.

Can you recall how far into the process Mary Griffith had progressed?

WILLIAMSON: No.

DRIVER: Can you recall what you did in relation to [Baby L]'s --

WILLIAMSON: I know I would have made the fluids up, but I don't know from what point I took over.

DRIVER: Understood. Making up the fluids, we understand, is an exercise in changing the concentration of dextrose within the bag?

WILLIAMSON: Yes.

DRIVER: Is that something that has to be measured carefully?

WILLIAMSON: Yes.

DRIVER: And it involves the introduction (inaudible: coughing)

we have learnt and we have been reminded this morning, the withdrawal of the original fluids and then replacement with more concentrated fluids if the dextrose concentration is being increased --

WILLIAMSON: Yes.

DRIVER: -- as it was here? So that no doubt would be something that would have to be managed with great care?

WILLIAMSON: Yes.

DRIVER: And in these circumstances, these unusual circumstances, of the management of this exercise being passed from one nurse to another mid-stream, as it were, did that require communication between you and Mary Griffith?

WILLIAMSON: I may have well just thrown out what she had started and started again. Quite often if we are not sure where somebody is, we'll just scrap and start again.

DRIVER: I understand. From this distance in time, you can't with any certainty recall which it was?

WILLIAMSON: No.

DRIVER: In any event, did you inform yourself of this particular baby [Baby L]'s needs in this regard?

WILLIAMSON: Yes.

DRIVER: Did you ensure that the bag that was about to be hung satisfied --

WILLIAMSON: Yes.

DRIVER: -- those needs? Forgive me for asking this question, was there any possibility that you may have introduced insulin into that --

WILLIAMSON: No.

DRIVER: -- bag in any circumstances?

WILLIAMSON: No.

DRIVER: Or observed anybody else do so?

WILLIAMSON: No.

DRIVER: So let's go back to the fluid balance chart behind tile 159, please. If Mr Murphy could magnify the column that (inaudible) has identified bears her initials at the bottom. (Inaudible) read it better. And we all have it in paper by the way, members of the jury, if you prefer to refer to that.

I'm just going to invite you -- thank you, Mr Murphy. So 16.00. I am going to invite you to help us understand what it is that you have endorsed on this document.

So from top to bottom, we can see under the fluids --

WILLIAMSON: Yes.

DRIVER: -- and the first row here, what does that represent?

WILLIAMSON: So the first is the total that's been read off the pump.

So it's the total of fluid that's run through for that, like at that time. So the pumps are zeroed at midnight.

That was the reading at 4 o'clock.

DRIVER: Is that volume?

WILLIAMSON: It's volume, so it's 37.2ml had run from midnight to 16.00.

DRIVER: Thank you. We can see just above the number 2, in your 37.2 -- is this your entry, by the way?

WILLIAMSON: Yes, yes.

DRIVER: Just above the number 2 at 37.2 is what appears to be an arrow pointing upwards?

WILLIAMSON: There's an arrow up, so I've increased the rate, and I have written the new rate in as 5.9.

DRIVER: And you recognise that as your handwriting?

WILLIAMSON: Yes and I have written 12.5%.

DRIVER: So looking at that, 12.5% dextrose, increased rate at 5.9 per hour?

WILLIAMSON: Correct.

DRIVER: All your entry?

WILLIAMSON: Yes.

DRIVER: And using the position of the arrow as a guide, does that inform the reader that that was an alteration that you made?

WILLIAMSON: In the rate. It would have been in the hour somewhere between 4 and 5, so by 5 o'clock the rate had changed to 5.9.

DRIVER: And was this all part and parcel of the single process of you taking over responsibility for [Baby L] and hanging the bag, as it were?

WILLIAMSON: Yes.

DRIVER: So it's not a subsequent tweak, this is a feature of the single event?

WILLIAMSON: I'd have to look at the fluid prescription chart to tell you. So it may be that I've made the 12.5%, that may have well hung before, but I've increased the rate at 5 o'clock based on the blood sugars potentially if I've had a conversation with the medical officer.

DRIVER: Understood. We will go to that prescription chart in due course.

For convenience's sake we will stay with this chart for the moment. At 16.00 hours the total volume, you calculated, did you, at 37.2?

WILLIAMSON: Yes.

DRIVER: The entry below?

WILLIAMSON: Is the pressure on the line.

DRIVER: Thank you. All the way down, the nature of the feed.

Is that donor --

WILLIAMSON: Donor breast milk, yes.

DRIVER: The route?

WILLIAMSON: Nasogastric tube.

DRIVER: The amount?

WILLIAMSON: 4.5.

DRIVER: The total?

WILLIAMSON: So you're just adding what was previously given to the -- so you've got a running total.

DRIVER: If we remind ourselves, we're talking about the total of --

WILLIAMSON: Of food.

DRIVER: Of food, yes. In addition to the --

WILLIAMSON: To the drip.

DRIVER: Thank you. This next entry was 1.5, we have just obscured the left column. But does that -- what is that? You tell me.

WILLIAMSON: It's the blood sugar.

DRIVER: So was that a measurement of his blood sugar --

WILLIAMSON: At that time. So it was a pre-feed sugar.

DRIVER: Again, undertaken by you?

WILLIAMSON: Yes.

DRIVER: Cot side?

WILLIAMSON: Cot side it would have been, yes.

DRIVER: Immediate result, no involvement with the laboratory?

WILLIAMSON: No.

DRIVER: Thank you. If we just continue down that column to satisfy ourselves that there isn't anything else added by you. Thank you very much, Mr Murphy.

If we could move on now to consider some other entries you've made during the time that you effectively took over responsibility for [Baby L]. If we could go to tile 167, please. Can you tell us whether or not your signature appears on this document?

WILLIAMSON: Yes, it does.

DRIVER: Could you use the cursor again to take us to it?

WILLIAMSON: That one there (indicating) and this one here (indicating).

DRIVER: Two entries. Let's take them in turn. Both are dated 9 April; is that correct?

WILLIAMSON: Yes.

DRIVER: The first timed at 16.30 hours?

WILLIAMSON: Yes.

DRIVER: Do you agree?

WILLIAMSON: Yes.

DRIVER: You take us through it from left to right, if you would.

WILLIAMSON: So the doctor's written it up at 15.35. They've said it's 12.5, it's going to be a 500ml bag and I am to run it at 3ml per kilo per hour, which equals 7.2ml (sic)

per kilo in 24 hours.

DRIVER: So is this the doctor's instruction?

WILLIAMSON: It's their instruction and their script.

DRIVER: And is it that instruction and that script that you followed?

WILLIAMSON: Yes.

DRIVER: As per the entry on the former document that we've just looked at?

WILLIAMSON: Yes.

DRIVER: So this is two sides of the same coin as it were.

So that instruction is timed at 16.35 and the fact of that instruction -- yes, 15.35. That fact of that instruction was available to you, was it, when you took over responsibility for --

WILLIAMSON: Yes.

DRIVER: -- hanging the appropriate fluids for [Baby L]?

WILLIAMSON: Yes.

DRIVER: Yours is the upper of the two signatures there?

WILLIAMSON: Yes.

DRIVER: And who was working with you in this regard at that time?

WILLIAMSON: Ashleigh Hudson.

DRIVER: Thank you. Whilst we're on this document, to save having to return to it in due course, your signature appears again alongside 19.00?

WILLIAMSON: Yes.

DRIVER: Take us through from left to right there, please.

WILLIAMSON: They've timed it at 7.05 in the evening. It's another 12.5% at 500ml. It's to run at 7.3ml an hour and they've signed it and we've signed and dated it.

DRIVER: Thank you.

MR JUSTICE GOSS: That's "we". You said yours is the lower signature.

WILLIAMSON: Yes.

MR JUSTICE GOSS: Do you recognise the other signature?

WILLIAMSON: It'd be Mary Griffith's.

MR DRIVER: Thank you. If we could look at the three entries, the two that you signed for and the one immediately above it, so we can try and reach some understanding as to the development, if

any. That one the cursor is next to now, the timed infusion started at 15.40, it says.

WILLIAMSON: Yes.

DRIVER: Dated, if we look at the other side of the page, 9 April.

WILLIAMSON: Yes.

DRIVER: Time 15.35. Is that the time of the instruction?

WILLIAMSON: The instruction, yes.

DRIVER: And we can see that's a 10% dextrose bag at a volume of 4.3 -- bolus.

WILLIAMSON: It is a bolus, yes.

DRIVER: I'm grateful. It is a bolus.

So for the last bag, we'd have to go up another line, would we --

WILLIAMSON: Yes.

DRIVER: -- to an instruction untimed on this document? A 10% dextrose bag with the volume, the additive, et cetera, timed at -- the infusion started at 12.10?

WILLIAMSON: Yes.

DRIVER: So from your experience -- reading of that document, just on the face of the document, on 9 April how many bags were hung for [Baby L], when do they change and how did they change?

WILLIAMSON: There would have been a new bag hung at midday, which is the 10%. The 12.5 would have been a new bag. The second one -- I don't know because we haven't timed an end infusion so it might have been a new bag or it might have just been a rate change.

DRIVER: Thank you. So a new bag for the infusion that started at 12.10, I think it is, where our cursor is?

WILLIAMSON: Yes.

DRIVER: Certainly a new bag when you became directly involved?

WILLIAMSON: Yes.

DRIVER: Instruction at 15.35, the infusion at 16.30. And you are uncertain, is that fair to say, as to whether the final entry would have been a new bag or just an alteration of --

WILLIAMSON: Yes.

DRIVER: Do you recall, when hanging the new bag, the infusion for which started at 16.30, whether or not you changed the giving set?

WILLIAMSON: No, no idea. No, I don't recall.

DRIVER: Does it follow from that that on occasions at least a bag can be changed but the giving set remains constant?

WILLIAMSON: Yes.

MR DRIVER: My Lord, I see the time.

MR JUSTICE GOSS: Yes. That's a good point to break off.

We break off for an hour for lunch. I can't remember whether you had a break before. Right. Could you be ready, please, to continue at 2 o'clock?

WILLIAMSON: Yes.

MR JUSTICE GOSS: Thank you very much. 2 o'clock then, please.

(In the absence of the jury)

MR JUSTICE GOSS: It's a note from the jury with some questions. I'll hand it on to you and leave it with you.

MR DRIVER: Thank you.

(Pause)

Mr Myers and I have both read them. Unless there's any dissent, I'll deal with them through this witness.

MR JUSTICE GOSS: Well, if this witness can assist. If not, the question can be answered at some point. Thank you very much.

(1.01 pm)

(The short adjournment)

(2.00 pm)

(In the presence of the jury)

MR JUSTICE GOSS: When we broke off, I received a note from one of your number raising some queries. I have shown it to counsel and the issues raised are going to be addressed.

MR DRIVER: Ms Williamson, before I take you through some of the entries that you have made on [Baby L]'s nursing records, might I just ask you some more general questions about dextrose, the giving sets and where they were kept on the neonatal unit back in 2016. Do you think you'd be able to assist us in that regard?

WILLIAMSON: The dextrose was kept in the cupboard underneath the nursing bench in one cupboard that was locked and the 50% would be -- there's like a bank of three cupboards, they're all locked, they're all drug cupboards, they'd be in that.

DRIVER: Is that the working bench at which you told us you saw Mary Griffith in a sterile kit --

WILLIAMSON: Yes.

DRIVER: -- preparing a bag --

WILLIAMSON: Yeah, so the giving sets are in a different storeroom, so it's just the medications that are locked and the fluids.

DRIVER: Let's deal with them in turn then. The fluids are kept there in nursery 1?

WILLIAMSON: Yes.

DRIVER: Immediately below the workbench?

WILLIAMSON: Workbench.

DRIVER: When you saw Mary Griffith at that work bench, was she facing the location of the cot in which [Baby M] was in?

WILLIAMSON: No.

DRIVER: Did she have her back to it?

WILLIAMSON: Back to it.

DRIVER: So that's the fluids. The giving sets, where were they kept?

WILLIAMSON: They moved places. It was either in a stacker, which is in the outdoor storeroom in the unit, or they were on the

opposite side of the wall that divides nursery 1 in the -- like there was boxes attached to the wall.

DRIVER: Right. You can't remember which at the time?

WILLIAMSON: No.

DRIVER: If you were to go from nursery 1 to the stacker to fetch the giving set and return, in terms of time how long would that take, very approximately?

WILLIAMSON: Like a minute, if that. If you work there all the time, you go to straight where they are, you walk out, pick it up, walk back in.

DRIVER: And the other location?

WILLIAMSON: You're in the room, so it's only round the corner -- like there's the bench, a wall, and it was on the opposite side of the --

DRIVER: So you leave the nursery --

WILLIAMSON: No, it's like a half wall in the nursery. It's just the other side of the bench but you're still in nursery 1.

DRIVER: Thank you. I think at some point you assisted the police by annotating a plan?

WILLIAMSON: Yes.

DRIVER: When giving them your recollections about [Baby M].

Perhaps if we could use that to help us in this regard.

So your initials, as they were, at the top, BSS?

WILLIAMSON: Yes.

DRIVER: (Inaudible) the first exhibit that you had assisted with. So did you -- firstly, within the nursery, did you seek to assist the police to understand where the babies were housed?

WILLIAMSON: I think so, from what I can remember.

DRIVER: Well, I am going from your statement and within that statement you said position B --

WILLIAMSON: Yes.

DRIVER: -- is where the baby [Baby M] was located.

WILLIAMSON: Yes.

DRIVER: Position C was where his brother [Baby L] was located.

WILLIAMSON: Yes.

DRIVER: Does that accord with your memory --

WILLIAMSON: Yes.

DRIVER: -- as of now?

WILLIAMSON: Yes.

DRIVER: Position A, which is another baby?

WILLIAMSON: Yes.

DRIVER: To jog your memory, in your statement you said during the course of the day, of the shift, you popped in more than once to look over that baby because people were unhappy with the observations?

WILLIAMSON: Yes.

DRIVER: Do you recollect that?

WILLIAMSON: Yes.

DRIVER: At position D was another baby at this point in time?

WILLIAMSON: Yes.

DRIVER: So using that then, and perhaps using the cursor and the mouse, the workbench?

WILLIAMSON: Is here (indicating). And that's the half wall (indicating).

DRIVER: So firstly, the fluids, where would they be?

WILLIAMSON: So the fluids are under that workbench.

DRIVER: In locked cupboards?

WILLIAMSON: Yes.

DRIVER: You told us about the giving sets. Two potential locations. Firstly, one within the nursery?

WILLIAMSON: So on the back of that wall.

DRIVER: And the stackers, as you described them?

WILLIAMSON: In this room here (indicating).

DRIVER: That's helpful. Thank you very much.

MR JUSTICE GOSS: Actually, on this plan that we have in the bundle --

MR DRIVER: Behind tile 88, Mr Murphy, if we go back to the carousel.

MR JUSTICE GOSS: You get a slightly different version of this plan in fact.

WILLIAMSON: That one's missing a door.

MR JUSTICE GOSS: Exactly, that's one's missing a door and this one provides a little more information.

I'm looking at this, which I think is in -- I've extracted from jury bundle 1, the plan --

MR DRIVER: Ms Williamson, there are two files on your desk.

Underneath -- yes.

MR JUSTICE GOSS: I think it was from there. I've got it loose. Divider 4.

MR DRIVER: If you open that up behind divider 4.

MR JUSTICE GOSS: Divider 4, all right?

MR DRIVER: I don't know whether Mr Murphy has it electronically as well. He does. He will now put it on the screen for us.

MR JUSTICE GOSS: I think I did invite you to write 1 and 2 on these two because they're otherwise identical. I've taken it out of divider 4. I didn't know where it had come from because we don't have an index to this file yet. There we are. I think if you look at that, it's more helpful (a) because it's got both doors marked to nursery 1. It also says "drug/med cabinet" and "computer".

MR DRIVER: Do you agree with that?

WILLIAMSON: The computer didn't live. The computer lived here (indicating) on a little work-like desk.

MR JUSTICE GOSS: We've seen that in a photograph.

WILLIAMSON: Yes.

MR DRIVER: Thank you. Could you take us to the stacker?

WILLIAMSON: That's here (indicating). It was on this wall.

DRIVER: Thank you.

And where it says "med cabinet" --

WILLIAMSON: It was a fridge, a locked fridge.

DRIVER: A locked fridge. And where was insulin kept?

WILLIAMSON: In the locked fridge.

DRIVER: Thank you. We've heard of keys that were passed between staff as and when required.

WILLIAMSON: Yes.

DRIVER: Was there a single -- sorry I'll rephrase the question.

The keys to the drug/med cabinet in nursery 1, were they kept on the same bunch or ring as the keys for the fridge?

WILLIAMSON: Yes.

MR DRIVER: Thank you. I hope that deals with the questions raised before lunch, my Lord.

MR JUSTICE GOSS: Yes.

MR DRIVER: Let's go back to the sequence of events for [Baby L], please. With that file open in front of you, please, could you go behind -- is it divider 15?

I believe it is. If you go behind divider 15, please.

I see an empty space. Perhaps it's the wrong file. My mistake. Apologies.

The other folder and behind divider 15. There are some documents, some of which we've looked at already and we won't go

back to them, others we haven't yet, some of which may have your initials on and we'll just locate where that is.

So the first page, if we look at the J number in red, we've already considered that on screen, haven't we?

WILLIAMSON: Yes.

DRIVER: Over the page, do you have a page that says J17949?

Over the page. Can you tell me, what's the page number after -- what's the page number of the second page?

WILLIAMSON: 17949.

DRIVER: Thank you. Is your signature on that?

WILLIAMSON: No.

DRIVER: Thank you. Turn over the page. What's the next page number?

WILLIAMSON: 17950.

DRIVER: Yes. Is your signature on that?

WILLIAMSON: Yes.

DRIVER: Where?

WILLIAMSON: The 1 o'clock dose -- all of them, actually. Well, the top three, not the bottom one.

DRIVER: Thank you. That is for (inaudible) presumably 11 May on the face of it. So let's move past there. What's the number on your next page?

WILLIAMSON: 17951.

DRIVER: Thank you. Do you see your signature there or not?

WILLIAMSON: Yes, top line.

DRIVER: Top line. Top line only?

WILLIAMSON: Yes.

DRIVER: Thank you. The next page?

WILLIAMSON: Is 17978.

DRIVER: Thank you. This is the observation?

WILLIAMSON: Yes.

DRIVER: Is your signature on there?

WILLIAMSON: No.

DRIVER: That's taken from 8 April. Over the page we will go into 9 April, I hope. 17979.

WILLIAMSON: Yes.

DRIVER: Is your signature on there?

WILLIAMSON: Yes.

DRIVER: Where do your signatures begin on there?

WILLIAMSON: 8 o'clock in the morning.

DRIVER: 08.00 hours?

WILLIAMSON: Yes. I don't know under the J number. I presume they're mine.

DRIVER: If Mr Murphy zooms in on screen.

WILLIAMSON: I'm guessing they're mine.

DRIVER: So this is 11 April. We see that you're undertaking observations on [Baby L] on the day shift?

WILLIAMSON: Yes.

DRIVER: From the morning of the day shift onwards. Anything of interest or note in that part of that document that you've completed?

WILLIAMSON: No.

DRIVER: Thank you. Over the page. Does it read J18000?

WILLIAMSON: Yes.

DRIVER: Do you appear on that?

WILLIAMSON: No.

DRIVER: Thank you. Does the next page read 18031?

WILLIAMSON: Yes.

DRIVER: Do you appear on that?

WILLIAMSON: No.

DRIVER: Over the page, 032.

WILLIAMSON: Yes. That's one we looked at earlier.

DRIVER: It is indeed. A single entry at 16.00 hours with the arrow pointing up to the details. So we can move on and over the page. 18033. Do you appear on there?

WILLIAMSON: No.

DRIVER: Thank you. So finally, if we go back to the carousel then because we've considered most of your entries on [Baby L]'s notes. If we could please go to tile 167.

We've already looked at this, I do believe. We have indeed. Totally my mistake.

Let's go to your nursing notes, please, at tile 344.

In the bottom right corner, I believe, of the original, we have Ms Williamson's note. Are they your initials?

WILLIAMSON: Yes.

DRIVER: Dated -- now we've moved forward in time, I should have forewarned you, to 11 April.

WILLIAMSON: Mm-hm.

DRIVER: Does this confirm that you took over his cares on that morning shift?

WILLIAMSON: Yes.

DRIVER: Some of the original notes we've already seen?

WILLIAMSON: Yes.

DRIVER: At which point he was commencing feeds at 2ml every 2 hours of expressed breast milk and 15% dextrose was continuing?

WILLIAMSON: Yes.

DRIVER: If we go to the top left of the next page, Mr Murphy.

We see a continuation of that same note; is that correct?

WILLIAMSON: Yes.

DRIVER: Does that tell us of the dextrose that he was receiving in addition to the expressed breast milk feeding --

WILLIAMSON: Yes.

DRIVER: -- regime? And how was he during this period?

WILLIAMSON: I have just stated that he's weaned, he hasn't opened his bowels, but I'm happy with his abdomen. He's active and alert with handling, so if I've disturbed him, he's responded appropriately and he's unsettled at times.

DRIVER: Thank you. Let's go through the remainder of the day.

At 18.18, you recorded the events through the afternoon onwards?

WILLIAMSON: Yes.

DRIVER: Blood sugar at 15.00 hours was at 3.5?

WILLIAMSON: Yes.

DRIVER: Did you report that to Registrar Mayberry?

WILLIAMSON: Yes.

DRIVER: Were you advised to repeat the blood test in 4 hours?

WILLIAMSON: Yes.

DRIVER: You tell us about the --

WILLIAMSON: It just says to repeat in 4 hours and if I find the results greater than 3, I can start to increase his feeds.

DRIVER: Yes.

WILLIAMSON: I have just stated that his feeds have been tolerated with minimal aspirates, he's still active and alert with handling, but he's now settled. The parents have been in, updated by the reg.

DRIVER: So the instruction is conditional on his blood sugar levels remaining above 3?

WILLIAMSON: Yes.

DRIVER: Was that the desired result?

WILLIAMSON: That was.

DRIVER: Was it achieved?

WILLIAMSON: Um... So I've said on my next note at 19.25 the repeat was 4.7 so, yes, it was, and therefore I've increased the feeds.

DRIVER: So his blood sugars are moving in the right direction, so the feeding regime was adjusted --

WILLIAMSON: Yes.

DRIVER: -- accordingly, all of which was a positive direction of travel?

WILLIAMSON: Yes.

MR DRIVER: Thank you very much. They are the only questions I had for you.

MR JUSTICE GOSS: Sorry, that's tile? You did say. It was my fault.

MR DRIVER: 353.

MR JUSTICE GOSS: 353.

MR DRIVER: 344. I think it features again at 353.

MR JUSTICE GOSS: Thank you very much.

Cross-examination by MR MYERS

MR MYERS: Ms Williamson, I just want to ask a couple of questions about the plan with the letters which were drawn on it, we looked at it shortly. I didn't catch the reference, but I'm just seeing if Mr Murphy is able to find it. BSS/1. Thank you. I want to have a quick look at that if I could, please.

We know from looking at the more detailed plan that where we've got the E on the neonatal unit, there's actually another door into there, isn't there, into the unit?

WILLIAMSON: There is, yes.

MYERS: Can I just check? Were there four or five babies in there on the day we're dealing with?

WILLIAMSON: I don't remember. There may well have been five.

MYERS: Can I check, what did A, B, C, D and E represent if I can just confirm?

WILLIAMSON: E was the door because there wasn't a door on the map and the police asked me where I was standing.

MYERS: Which one from your recollection was [Baby M]?

WILLIAMSON: C.

MYERS: C. I'm going to ask you an alternative position and you say if this is right or wrong as you cast your mind back.

B, is that the position for [Baby L]?

WILLIAMSON: I think so.

MYERS: Right. If we look at position B, I want to ask you to think about is whether in fact [Baby M] wasn't in the corner to the right of B.

WILLIAMSON: He could have been, yes.

MYERS: Fitted in between other cots?

WILLIAMSON: Yes. We quite often had babies in that corner.

MYERS: So in fact, casting your mind back, it's quite possible he could be there?

WILLIAMSON: Yes, he could have been, yes.

MYERS: The next thing I would like to ask you about is the dextrose, just a little bit more about the dextrose.

You've explained to us that the dextrose is kept somewhere near to the letter E in nursery 1; is that correct?

WILLIAMSON: Yes.

MYERS: And there's a -- is it a fridge or a cupboard in that area?

WILLIAMSON: A cupboard.

MYERS: Right. Did you keep in nursery 1 bags of 10% dextrose and bags of 5% dextrose?

WILLIAMSON: Yes.

MYERS: Was there a kind of -- was it in a kind of basket underneath there in the cupboard?

WILLIAMSON: Yes.

MYERS: Right. Dextrose, is that one of the most common items used on the unit?

WILLIAMSON: Yes.

MYERS: It is regularly used, isn't it?

WILLIAMSON: Yes.

MYERS: Was it kept there as a stock, really, of a large number of bags, so a member of staff could take a bag of 10% or 5% if they needed it?

WILLIAMSON: Yes.

MYERS: Would that be stocked up as time went along?

WILLIAMSON: Yes, when one of us noticed it was empty we'd get more from the main stock.

MYERS: Have you an idea how many bags of dextrose there were when it was fully stocked?

WILLIAMSON: It could have been up to ten.

MYERS: Would that be ten of 10% and ten of 5% or ten overall?

WILLIAMSON: We tended to run with more of 10%, so if there would be ten there would probably be five of the 5% because we didn't use them very often.

MYERS: Oh right.

MR JUSTICE GOSS: So would there be 15 then?

WILLIAMSON: Roughly, yes.

MR JUSTICE GOSS: I was just clarifying.

MR MYERS: Thank you, my Lord.

Then can I just ask you this about insulin, a totally different topic. Does insulin, the actual substance insulin, have quite a distinctive smell?

WILLIAMSON: Yes.

MYERS: Is it quite a strong smell?

WILLIAMSON: Yes.

MYERS: We understand the insulin is kept in a fridge in a different room in the unit; is that right?

WILLIAMSON: Yes.

MYERS: And that fridge is locked, is it, the fridge that had the insulin --

WILLIAMSON: Yes.

MYERS: And who would normally have the keys with them?

WILLIAMSON: A trained member of staff.

MYERS: Right. By trained, we assume they're all trained to various degrees, but who do you mean?

WILLIAMSON: Those with PIN numbers, so the registered staff, not the nursery nurses.

MYERS: And do you know -- please don't guess if you don't know -- if it's one or two vials of insulin? How many are kept in there or more than that?

WILLIAMSON: Pass. Depends whatever the stock level was set at.

MYERS: And do you have any idea of how often the content of that fridge is checked or was checked?

WILLIAMSON: No. We used to check it every evening for CIVAS, but insulin wasn't part of CIVAS.

MYERS: That's right. CIVAS, is that the people dealing with TPN bags and things like that?

WILLIAMSON: Yes. Yes, so we would check how many bags of TPN we had, how many bags of sterile 10% we had, how many like syringes pre-made of morphine.

MYERS: Right. But as for insulin, it's in that fridge --

WILLIAMSON: It's in that fridge but we didn't routinely check it, no.

MYERS: Thank you.

The other topic or another topic you were asked about, just briefly, giving sets.

WILLIAMSON: Yes.

MYERS: You said there was -- one location for the giving sets is actually in nursery 1 against that partition wall?

WILLIAMSON: Yes.

MYERS: And did you say the other was in one of the small rooms opposite nursery 1?

WILLIAMSON: Yes, in the sterile store.

MYERS: And if we look at where it says "neonatal unit" on that plan, it was under the E and O of "neonatal"?

WILLIAMSON: Yes.

MYERS: Or next door?

WILLIAMSON: The next one -- like, yeah, that big one.

MYERS: The one underneath "atal"?

WILLIAMSON: To the left, the sterile store.

MYERS: Oh right. Sorry. I see that. So busy looking for something else! So sterile store is where that's kept?

WILLIAMSON: Yes.

MYERS: In the event of a giving set being needed then it would be taken from one or other of those locations?

WILLIAMSON: Yes.

MYERS: Although in fact your recollection with regard to the procedure that we're looking at is you're not sure whether the giving set was changed or not?

WILLIAMSON: Correct.

MYERS: All right. That's on this occasion?

WILLIAMSON: Yes, we would have primed the giving set -- even if I hadn't changed the giving set -- when I put the new 12.5% up, I would have run -- disconnected it from the baby and run it

through because the volume of that line is about 10ml and if I'd waited for the 12.5 to get to the baby it would have been hours.

MYERS: Right. So you actually run it through to get it on its way before it's reconnected?

WILLIAMSON: Yes.

MYERS: That's if you didn't (overspeaking) the same one?

WILLIAMSON: That's if I didn't change the giving set, yes.

MYERS: But whether or not it was changed is something
(overspeaking) --

WILLIAMSON: I can't remember, no.

MYERS: -- no recollection of?

WILLIAMSON: No.

MR MYERS: All right. Thank you very much.

Re-examination by MR DRIVER

MR DRIVER: I just want to clarify your recollection of the location of the babies within that room. Do you recall the creation of your exhibit that we've just looked at.

WILLIAMSON: Yes.

DRIVER: Do you recall the occasion when you endorsed that plan?

WILLIAMSON: Yes.

DRIVER: And I'm going to -- was that during the making of a witness statement dated 16 February 2018?

WILLIAMSON: I'm guessing yes.

DRIVER: I'm going to take your attention to the part of that statement where you describe marking this plan.

WILLIAMSON: Yes.

DRIVER: The statement, for anybody who cares to note, is filed at our I3134. The relevant part of that statement, this is just for the witness and the lawyers, Mr Murphy, is at I3138, which is page 5 of 7.

There's a paragraph that begins with the words:

"To be accurate with the allocation and location of babies in nursery 1..."

Do you see that paragraph?

WILLIAMSON: Yes.

DRIVER: Just read it to yourself to refresh your memory.

(Pause)

WILLIAMSON: Yes.

DRIVER: So as of that date when making this plan, it would seem that you were seeking to record that [Baby M] was at point B?

WILLIAMSON: Yes.

DRIVER: And his twin brother, that is to say [Baby L], was at position C?

WILLIAMSON: Yes.

DRIVER: Having refreshed your memory from the statement you made nearer the time, albeit some time after the date in April 2016, if we could go back to the exhibit itself, please, the plan itself. Where was [Baby M]?

WILLIAMSON: C, I would have said.

DRIVER: And where was [Baby L]?

WILLIAMSON: B, based on my statement.

MR DRIVER: Does your Lordship have any questions for the witness?

MR JUSTICE GOSS: No, thank you very much.

MR DRIVER: Ms Williamson will be invited to rejoin us.

MR JUSTICE GOSS: I think you know you're coming back to --

WILLIAMSON: Yeah.

MR JUSTICE GOSS: -- give evidence again. Thank you very much. Don't talk to anyone about anything to do with this case in the meantime.

(The witness withdrew)

MR DRIVER: The next witness has special measures in place, my Lord.

MR JUSTICE GOSS: Right. You know the procedure, thank you.

(Pause)

[DR A] (sworn)

Examination-in-chief by MR ASTBURY

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

DR A: [Dr A].

ASTBURY: Thank you. And your profession, please?

DR A: I'm a consultant paediatrician.

ASTBURY: Thank you. I know you've been very polite, because I'm asking you questions, you're addressing me when you answer. If you could -- sorry.

(Pause)

Could you just wait a moment, please?

MR JUSTICE GOSS: Could you just see what the problem is, please?

(Pause)

MR MYERS: Would your Lordship give me one moment, please?

MR JUSTICE GOSS: Yes, certainly.

(Pause)

MR MYERS: Thank you, my Lord.

MR JUSTICE GOSS: We're all right?

MR MYERS: Yes, we are, thank you.

MR JUSTICE GOSS: Good. Let's start again.

MR ASTBURY: Your name again, please?

DR A: [Dr A].

ASTBURY: Thank you. If you can lean forward a little bit towards the microphone, that would be helpful. I'm not going to ask you to look at any of those documents in front of you, so don't worry. You told us your profession?

DR A: Consultant paediatrician.

ASTBURY: Thank you. Were you employed at the Countess of Chester Hospital in 2016?

DR A: Yes, I was.

ASTBURY: In what capacity were you employed there, doctor?

DR A: I was a paediatric registrar.

ASTBURY: Thank you. Did part of your responsibilities encompass the neonatal unit at Chester?

DR A: Yes, they did.

ASTBURY: You understand that you've come here to assist today with your treatment of a baby named [Baby L]?

DR A: Yes.

ASTBURY: That having taken place on a night shift in the unit between the 9th and 10 April of 2016?

DR A: Yes.

ASTBURY: May I ask you first if you have any independent memory of [Baby L]?

DR A: No, I don't.

ASTBURY: Have you, in preparing your witness statement in this matter, had access to [Baby L]'s medical notes?

DR A: Yes, I have.

ASTBURY: And have they assisted you in preparing for today?

DR A: Yes.

ASTBURY: There's a screen to your right. We're going to show you your notes to assist and I am going to take you through them, if I may. We'll begin with tile 227, please.

This is a note at midnight on 10 April, so several hours into your shift, I would imagine.

DR A: Yes.

ASTBURY: Was this the first time that you had met [Baby L] on the unit?

DR A: I believe it was.

ASTBURY: Thank you. We'll have a look at your note, please.

Do you recognise the handwriting?

DR A: It's mine, yes.

ASTBURY: And the signature?

DR A: That's mine also.

ASTBURY: Good. I'd just like to look at the note with you, please. The heading is "Night R/V".

DR A: Yes.

ASTBURY: What does that stand for, please?

DR A: Review.

ASTBURY: Then we have a series of three numerical entries entitled "BG". What are they, please?

DR A: BG is short for blood glucose and the three subsequent numbers are the numbers that I had been able to witness when I had attended to the baby: 2.4 millimoles per litre, then 2.2 millimoles per litre, and then 2.1 millimoles per litre.

ASTBURY: And are we to understand those as readings taken successively through the course of the evening or the night?

DR A: Yes, I would have written those down having looked at the documentation at the baby's cot side.

ASTBURY: What if anything can you tell us about those readings?

DR A: So they are lower than I would want in a baby of [Baby L]'s age and they are decreasing, so I've been, I would assume, called to the unit because that blood glucose value was falling and I would then come up with a plan for treatment to start after that point.

ASTBURY: Why do you need to stop them falling?

DR A: Because low blood glucose in a baby can cause illness, it can cause seizures and it's damaging to a baby.

ASTBURY: In what way can it be damaging?

DR A: If the blood glucose falls to a much lower level then that can cause organ damage, brain injury.

ASTBURY: So it's a priority to increase those levels if at all possible?

DR A: Yes.

ASTBURY: So just explain to us, please, the following number of calculations, bearing in mind me as your audience, please, could you take us through those?

DR A: What I've done -- I will have looked at the documentation at the baby's side and with those decreasing numbers of blood glucose, I've then calculated, based on the baby's fluid intake for the day, what its glucose requirement is and that's how much glucose is that baby getting in milligrams per kilogram per hour -- sorry, per minute I think that is at the end. Yes.

ASTBURY: Was the present, as it was, dose sufficient?

DR A: No. So the baby -- this baby in particular is receiving or requiring more glucose than I would expect, so it's above 10 milligrams per kilogram per minute, and based on the amount of fluid that this baby can be administered in that day, because this is day 3 of life, I've then calculated a plan or I've derived a plan in the subsequent calculations underneath.

ASTBURY: Okay. So the first section tells us what you found on your review --

DR A: Yes.

ASTBURY: -- what you were told by others and then your plan is what you propose going forward?

DR A: That's right.

ASTBURY: To try and boost those sugar levels that you've recorded on the top line?

DR A: Yes.

ASTBURY: Tell us about the plan, please.

DR A: Item number 1 is:

"Reduce IV fluids to 6.5ml an hour and start milk at 4ml two-hourly."

ASTBURY: Okay. Just pausing there, is there a reason why you're reducing the IV fluids?

DR A: The IV fluids are 12.5% glucose, which is as strong a solution of glucose that you can administer through a peripheral -- a small cannula in a vein. I've reduced it because the volume of fluid that this baby is getting is more than it should be getting on day 3 of life. And what I've then said is that we need to do a -- the increase in the milk temporarily gives me more glucose being administered to baby in order to raise that blood glucose level. I have then said let's look in 1 hour's time and see what difference that's made to the blood glucose and then my last line there is for me. My plan is to insert a long line, so this is another line, a new line, but one that runs further into the body, into a bigger vein so that I can use a stronger concentration of glucose.

ASTBURY: Right. Can I just understand this? So the baby receiving maximum by way of intravenous fluids through a cannula?

DR A: Yes.

ASTBURY: Therefore to boost the sugar, you've increased the feed?

DR A: Yes.

ASTBURY: Do we take it then there's glucose in the milk?

DR A: Yes, there is, yes.

ASTBURY: And you've had to balance that by reducing the amount going in via the cannula?

DR A: Yes.

ASTBURY: And then you've mentioned a long line. We know -- we've heard what a long line is and how it's used. How did that or how might that affect the position as far as the fluids that were being administered to the baby?

DR A: Well, the last part of my plan here says that what I will be doing is administering 139ml per kilogram per day, which is almost the next day's fluid requirement, it's in between day 3 and day 4. And that gives me a glucose requirement of 10.86, so I'm going up on the amount of administered glucose. But this is

a holding measure until I'm ready to insert the long line because that gives more options for glucose administration.

ASTBURY: Because the long line doesn't have the same upper limit as the cannula has?

DR A: That's right, yes.

ASTBURY: Thank you. If we scroll down then, please, to the following hour. Your next entry is exactly an hour later at 1.30 and it's headed "long line".

DR A: Yes.

ASTBURY: Is that "aseptic technique employed"?

DR A: Yes, it is.

ASTBURY: Does that suggest that the long line has been fitted?

DR A: Yes.

ASTBURY: Did you do that, doctor?

DR A: Yes.

ASTBURY: At 12.30, 1.30, or somewhere in between?

DR A: It will have been after 12.30 because that's where I made the plan. It takes some time to gather all of the equipment and to prepare and I cannot remember this night, but I would most -- usually I would have contacted the other junior doctor that was on with me just to see if they had any problems that needed solving before I started this procedure.

ASTBURY: Because you were going to be engaged with that

(inaudible: coughing) time?

DR A: That's right.

ASTBURY: I think you've then indicated -- is that a measurement and a brand name?

DR A: Yes. What I've written next is:

"28 gauge Premicath long line inserted into the left great saphenous system using a 24 gauge cannula."

So these are the little peripheral cannulas I use to enter the vein, then I fed the 28 gauge long line through it to its

required length and I have inserted it to 15 centimetres at the skin surface. So the long line has measurement graduations on it, so you can tell how far in it is.

At the time of writing this entry [Baby L] has already had an X-ray and -- sorry, the X-ray has been requested and I've then put the label from the long line as part of that entry.

ASTBURY: So is that a unique number for --

DR A: It's a product identifier, yes.

ASTBURY: And it provides an audit trail for -- if necessary for future --

DR A: Yes.

ASTBURY: Thank you. Then again you've repeated your plan now that you have the long line in place. How did you amend your plan?

DR A: So what I've been able to do is change the fluids from a weaker glucose concentration to a stronger glucose concentration, which means I can deliver the same amount of glucose in a smaller volume of fluid. And because of this, I have then been able to deliver a total volume of milk and intravenous glucose at 121ml per kilogram per day, which is exactly where he was for day 3 of life.

And I've also managed to maintain the same amount of supplied glucose, which is 10.8 milligrams per kilogram per minute.

ASTBURY: As the clinician treating [Baby L] at the time, and casting your mind back to that period of an hour or two in the early hours of 10 April, was it apparent to you why [Baby L]'s blood sugar levels were at the level that they were?

DR A: No, it wasn't. The priority for [Baby L] would be to stabilise his blood glucose and that's possible by administering intravenous glucose. I've mentioned in my statement for this baby that there would usually -- if this had been going on a long time, there would have been a plan to do some tests, and commonly these tests take some time for the results to be returned. If there are outstanding results, ones that are exceptional, they would usually get phoned through to the neonatal unit as a "this is significant". I hadn't been alerted to any of those, otherwise I'd have documented them in my notes.

ASTBURY: Yes. And for you, was the priority increasing those sugar levels at that particular point in time?

DR A: The priority was maintaining a safe blood glucose level.

ASTBURY: Because of the potential consequences you told us about?

DR A: That's right.

MR ASTBURY: Thank you. I have no more questions. If you could wait there, please.

MR MYERS: No, my Lord, we have no questions. Thank you.

MR JUSTICE GOSS: Thank you very much indeed, [Dr A].

Stay where you are, please. Is [Dr A] coming back?

MR ASTBURY: Yes, we anticipate so.

MR JUSTICE GOSS: You will be giving evidence later in the trial so please don't talk to anyone about anything to do with this case until you've completed all of your evidence. Stay where you are and we'll go through the reverse process to that which we had before, so the jury can pop out, thank you.

Is it worth having a break now?

MR ASTBURY: Yes. One witness left.

MR JUSTICE GOSS: We'll have almost a 10-minute break now and then we'll do the rest of the afternoon in one piece. Thank you.

(In the absence of the jury)

MR JUSTICE GOSS: Do you need to see the defendant, Mr Myers?

MR MYERS: Perhaps if Ms Letby remains in court. I'll make enquiries, my Lord. We'll let you know if there's any issue. Thank you.

MR JUSTICE GOSS: I'll rise now and we'll sit again at 3.00.

(2.51 pm)

(A short break)

(3.00 pm)

MR JUSTICE GOSS: (Inaudible: no audio feed from court)

there's one document in section 15 for a completely different date. I didn't understand why it was there.

MR DRIVER: That's J17950. No doubt Mr Johnson will blame me for that error.

MR JUSTICE GOSS: I won't say anything, I'll just leave it to you to sort out. Thank you.

(In the presence of the jury)

MR DRIVER: May I invite Mr Stansfield to hand out some additional documents to the jury that I will, once received, invite us all to make some amendments to our jury bundle number 2.

Behind divider 15, members of the jury, if we do it page by page, we should have the first page ending in the digits 948.

MR JUSTICE GOSS: So we're going to the front of the -- just looking at what we currently have in section 15, the front page. Just put the ones we've just been given to one side for a moment. We're just checking because there's something going to be removed from here, so it has got to be gone through like this. It looks like this (indicating), the front page of the section --

MR DRIVER: It's J17948, we're going to keep that. Turn the page, J17949. We'll keep that. The next page, J17950 was inserted in error. So we'll take that out of the bundle and if Mr Stansfield would be kind enough to collect them in from the jury, so it's 12 of those to come out.

(Pause)

MR JUSTICE GOSS: They were for a completely different day, for 11 May.

MR DRIVER: So that having been removed, we should be looking at page 17951, which is good. We'll turn the page over and I'm now going to invite you to insert the front page of the mini-bundle that Mr Stansfield handed out. That is J17997. We'll put that between our 951 and the observation chart, which is 978.

So the front page is stamped J17997.

MR JUSTICE GOSS: To go in front of 17978?

MR DRIVER: Yes, please.

Then if we flick through, we'll see observation chart 17978. Followed by observation chart 17979.

Followed by a blood gas record at 18000. After which, and before 18031, could you please add the next two pages, which are pages 18025 and 18026?

Once they're in where we want them, could we go to the back of this bundle, which is behind divider 15.

Currently, the last page is 18034. Behind that, could we add what should be the last page of the bundle that you received a few minutes ago. That is to say J26996.

Once they're all in, could I just tip you off as to another page that will be going in in due course.

Working from the front of our divider 15, our first one is 948, 949, 951. Then you'll see the results and management flow sheet, which is stamped J17997 and has at the bottom of the page the letters PTO. You'll remember we looked at that yesterday with Dr Ukoh and his evidence was to the effect that on the reverse of that page was his own corresponding handwritten note, which will go in there in due course. Apologies for that oversight.

MR JUSTICE GOSS: I'm just going to check. So working from the back, the back should be 26996, all right? And then working back, there's the sequence 18034, 33, 32. Have you got them? That's good.

MR DRIVER: Thank you. May I recall Dr John Gibbs, please.

DR JOHN GIBBS (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: For the recording and the transcript, could you state your full name, please?

GIBBS: John Gibbs.

DRIVER: Dr Gibbs, were you the consultant of the week at the Countess of Chester neonatal unit during the week that the twins [Baby L] and [Baby M] were born?

GIBBS: Yes, I was.

DRIVER: And as such, were they and all other babies born on the unit in that week placed under your consultant care?

GIBBS: Yes.

DRIVER: Did you on, I think it is, day 3 of their lives have direct contact with [Baby L]?

GIBBS: Yes, and his brother, yes.

DRIVER: And his brother [Baby M]. Prior to doing so, and upon your return to duty at about 8.30 am on Sunday, 10 April 2016, did you appraise yourself of [Baby L]'s history to date?

GIBBS: Yes. We hold a handover discussion between the doctors on duty. I would have been told about [Baby L] and [Baby M] on the Friday evening, the day they were born, at about 4.30, but I wasn't on call that evening. And again, at 8.30 on the Sunday morning, that's the 10th, was the day I examined both of the twins.

DRIVER: Thank you. Having appraised yourself of [Baby L]'s history, did you come to learn that there had been something of a history in relation to his blood sugar levels and the infusions given to address that problem?

GIBBS: Yes.

DRIVER: In that regard could I invite us all to look at the paper documents? That's in that folder there, Dr Gibbs, behind divider 15, which is already open. Thank you.

We will go through to page J18000, which is about five or six pages in, Dr Gibbs. If I could ask Mr Murphy to put it on screen as well, please. It's behind tile 47 amongst other places.

So did this set out, insofar as it was completed as of 10 April, the history of [Baby L]'s recorded blood glucose levels?

GIBBS: Part of the history, yes. Most of the blood sugar levels, blood glucose levels, shown here were from 8 April 2016, starting with the 1.9 and ending up with the 4.6. There's two others at the very bottom which are from a week or so later.

DRIVER: Quite so.

GIBBS: But that's his first day of life.

DRIVER: Yes.

MR MYERS: I wonder if I could just correct that as I identified this morning. It's not Dr Gibbs' fault I anticipate, but that's why I went to this. Two of those, we established this morning, are not the 8th. If you recall the 00.54 and the 05.35 below the Ms Jones ones were not actually from the 8th and I dealt with that this morning, but I just thought it was important there's no misunderstanding because they don't relate to that.

MR DRIVER: Quite so.

You would have noted, Dr Gibbs, that the left column, the date column, has not been completed for each and every entry?

GIBBS: Yes.

DRIVER: And as Mr Myers accurately just said, evidence we received this morning in your absence, obviously, tends to show that the readings for 8 April, as recorded on this document, cease at the 21.00 entry, that is to say blood sugar level of 2.4 with the T initials in the right column, which was Nurse Jones.

GIBBS: Right.

MR JUSTICE GOSS: It's slightly more convoluted than that because there was a 3.6 reading recorded, but that's at midnight, at 00 --

GIBBS: Right.

MR MYERS: That's why -- although I was told at the time there was no need to go there, that's why I did this, my Lord, because --

MR JUSTICE GOSS: It's not that one.

MR MYERS: It's not that one. We can go, if necessary, to the feeding chart --

MR JUSTICE GOSS: Exactly. Let's not get bogged down in this.

GIBBS: A problem that's become obvious to the court is blood sugar levels/blood glucose levels can be recorded on a number of different charts, which can be confusing.

But if you make the effort to find all the charts, you can follow the blood sugar profile.

MR JUSTICE GOSS: Anyway. The point is we should not be misled to think that that is the day of the 8th through into the early hours of the 9th. It's not what's recorded in those one after 21.00 hours.

GIBBS: Thank you.

MR DRIVER: Did you and/or have you made the effort to follow all the relevant entries in relation to [Baby L]'s hypoglycaemia?

GIBBS: I have made an effort to do so, yes. I must admit I didn't realise there was a midnight one of 3.6. But in another chart there's a series of blood glucose levels from 09/04 which are on one of the fluid balance charts.

DRIVER: Quite so. Taking an overview of those entries, what did you learn as to his history from birth to your arrival on that Sunday?

GIBBS: Well, [Baby L] dropped his -- had a low blood sugar in the first few hours of life, which is common in a premature baby who is small for being premature, as was the case with [Baby L]. But then on the second day of life, which is 9 April, his blood sugars dropped more, in fact reached a low level of 1.5 on more than one occasion.

So his initial 10% glucose infusion had to be increased in volume as well as then changing to a higher 12.5%, and then, because of persisting low blood glucose levels, was then changed to 15% at about 3 in the morning of 10/4, 7 hours before I saw him on the ward round.

DRIVER: Thank you. And additionally, were the infusion rates altered as part of this regime?

GIBBS: Yes. The effort to achieve higher blood sugar levels included increasing the amount of glucose being given as well as the strength of the glucose infusions.

DRIVER: Thank you. I'm directed to tile 97. Do you see that, Dr Gibbs?

GIBBS: Yes.

DRIVER: Does that contain better and greater detail as to his blood sugar levels?

GIBBS: Well, it's a chart from 09/04/16, and down the left-hand column in handwriting is BMs, which is blood glucose.

And then there's a figure starting at 1.9 at 10 o'clock in the morning and others that are low as you carry along that same line, reaching a lowest level of 1.5 on a couple of occasions between 3 o'clock and 4 o'clock in the afternoon. But I wasn't on duty this particular day.

DRIVER: Blood sugar readings such as this, do they derive from tests and the reading of results of those tests done at the cot side or with the assistance of the laboratory within the hospital?

GIBBS: Most of those are likely to be cot side tests. Some may have been done on a blood gas machine, which does glucose as well. There may have been some of them, and there was at least one, because I've seen the result, sent to the laboratory to be checked. I can't tell just from looking at that chart which ones were measured in which way. They should all give roughly -- they should all give similar readings, although we tend to think the laboratory reading is a little more accurate than the bedside machines.

DRIVER: Thank you. Tile 260, please. A similar format but a later date.

GIBBS: Yes.

DRIVER: 10 April. So does this correspond with the time when you were readying yourself to examine [Baby L] and your examination of [Baby L]?

GIBBS: Yes.

MR JUSTICE GOSS: It's just a continuation, in fact, time-wise. That's why we've got them in sequential pages as paper in our bundle.

MR DRIVER: Quite.

You made mention, Dr Gibbs, of at least one test that was sent to the lab.

GIBBS: Yes.

DRIVER: If we turn the page on the bundle, I think we'll see a set of lab results; is that correct?

GIBBS: Yes. The first page I see is a laboratory documenting the times they received samples and sent them out, I think --

DRIVER: Yes.

GIBBS: -- but it doesn't give any results.

DRIVER: No. We'll turn to that page in a moment. If we look over the page, do we see the continuation of what is described as a report?

GIBBS: Yes.

DRIVER: Thank you. If there's anybody who wants to look at that on the carousel, it is behind tile 190. They are behind tile 190, I should say.

So the first of those two pages, that is to say the one stamped J18025, this, am I right, is a set of information generated by the laboratory?

GIBBS: Yes.

DRIVER: Would this be accessible to a treating medic within the NNU back in April 2016?

GIBBS: I'm not sure that it would be. And I don't usually look at this page. It's how the sample has been processed by the laboratory. It doesn't give any results.

DRIVER: Thank you. We can see it's broken up into parts. First is a run date, lab specimen, internal enquiry, we have [Baby L]'s name, we have your name. But that's not to say that you caused this test to be undertaken, is it?

GIBBS: That's correct. It was undertaken on 9 April when I wasn't on duty that day.

DRIVER: And we see the name of Anthony Ukoh, a doctor who was a locum, we understand, at Chester at the time, who gave evidence before this jury yesterday.

GIBBS: Yes, he was a locum registrar.

MR ASTBURY: Thank you.

My Lord, you will see at the top that this is exhibit reference EL/3. EL is a consultant by the name of Emma Lewis, who will in due course come to court to assist us with this part of the document.

With that in mind, Dr Gibbs, would you or would you not be comfortable helping us understand the entries such as entered, date/time, entered by, et cetera, or would you prefer me to defer those questions for Emma Lewis?

GIBBS: I think it's best for Dr Lewis to answer these. The most important time that I can see is towards the top in the middle. There's columns going across the top underneath where it gives my name and [Baby L]'s name. The middle column shows "ordered for" and has "09/04/16".

That's just when someone's run this off. The important bit, there's received -- "RECV" is when the sample is received in the laboratory and it was received on 9/4/16 at 18.26 in the evening.

DRIVER: While we're picking out names, we can see further down in that same section, alongside an abbreviation there I take to be worksheets, I might be wrong, we have the word fertility, we have 11 April 2016, then we have:

"[Asterisk] closed [asterisk] 11/4/16 by Con Bowles."

Do you know who Con Bowles is in it context?

GIBBS: She's Dr Shirley Bowles, who was a clinical chemist working in the Countess of Chester Hospital at that time.

DRIVER: Thank you. Am I right to understand you'd prefer to defer the interpretation of this page for Dr Lewis?

GIBBS: Yes, but for me as a clinician, or any of the clinicians looking after [Baby L], the important thing to note is this was a sample received at 18.26 on the evening of 09/04/16.

DRIVER: Received by the laboratory but there's nothing on this that informs you as to when the sample was taken, is that right or wrong?

GIBBS: That's correct. I think the laboratory mainly records when they receive samples.

DRIVER: Understood. Let's turn page.

GIBBS: And part of the way down it does say on the left-hand side "ordered" and U&Es, insulin/C-peptide. These are the tests that were requested but we're going to see those results. There are no results on this sheet so it's -- the next sheet is more informative.

DRIVER: Thank you. Does "ordered" at least inform us of the nature or the objective, rather, of the tests --

GIBBS: Yes.

DRIVER: -- that were undertaken?

GIBBS: And the relevant clinical details:

"Hypoglycaemia in a neonate."

So a neonate, which was [Baby L], with low blood sugar, low blood glucose.

DRIVER: Thank you very much. Let's turn the page then. This page, would this information in this format be accessible to a treating paediatrician at Chester at the time?

GIBBS: Yes, in a very similar format. The actual photocopy I'm looking at is a little difficult because there's greyed areas that are almost blacked out. It's easier to see -- there we are, yes.

DRIVER: It's not much better on screen, but perhaps it is slightly better. You've helpfully reminded us that the objective here was to obtain results for U&E, insulin/C-peptide, cortisol, growth hormone. Can you in turn take us to the corresponding results, please?

GIBBS: Right. Looking at the screen then, towards the bottom there's creatine on the left-hand side column, and underneath that cortisol. And the measurement of cortisol is 397 nanomoles per litre. You can see a reference range underneath that, which shows that 397 rests for somewhere roughly in the middle of that reference range. The reason cortisol is checked is that a rare reason why a baby may have a very low blood sugar is they're failing to produce cortisol. [Baby L] did not have that problem because he does not have a very low level of cortisol.

DRIVER: Focusing on the same entry, moving away from the results itself and concentrating for a moment at the time details, you can see alongside the reference range, 155 to 607, it says in brackets "9 am collection". Are you able to assist us with that or, again, should we await Dr Lewis?

GIBBS: I think I can assist, but Dr Lewis would confirm. Blood cortisol levels vary greatly throughout the day and it's typical to collect them first thing in the morning, so this is why next to the reference range it says it should normally be between 155 and 607 and that bracket means if collected, it doesn't have to be bang on, at 9 o'clock in the morning. It's an early morning cortisol result.

DRIVER: So do you read that as a reference to the range as opposed to the collection of this sample?

GIBBS: Yes.

DRIVER: I'm grateful.

GIBBS: The normal range should be judged by a sample collected around 9 in the morning, which wasn't the case for [Baby L]'s sample here.

DRIVER: The next line begins with the letter:

"ENT [9 April] 21.28."

Are you able to interpret that or again, one for Dr Lewis?

GIBBS: Probably Dr Lewis, but I would assume from that, and Dr Lewis will confirm, that means the cortisol was measured and that was the result at 21.28. The sample had been taken earlier but this is when the laboratory performed the test.

DRIVER: Thank you. Anything else alongside cortisol that we ought to take into account when considering [Baby L]'s hypoglycaemia?

GIBBS: From this test, it does not suggest that the low blood glucose level, the hypoglycaemia, was due to an abnormally low cortisol level.

DRIVER: Thank you.

GIBBS: Just taking back -- that "ENT 09/04 21.28" when I said that's when I presumed they did the test, next to that it's "Verified 11/04 at 12.18" and that would be Dr Shirley Bowles who verified that. Now exactly how they verified it in the laboratory, Dr Lewis is coming to court to be able to confirm how that is carried out.

DRIVER: Thank you. In any event that verification process, it appears on the face of this document, took place 2 days or so later?

GIBBS: Yes. Looks like on a Monday from a sample taken on a Saturday from those dates.

DRIVER: Thank you. The next category of significance and relevance in terms of hypoglycaemia?

GIBBS: Is the growth hormone result which is underneath cortisol. Behind what looks mainly blacked out is 8 point something 3, I think, so 8 point something. Which is a high level, which is why there's an H next to it just outside the black rectangle.

Next to that is the normal range, which is between 0.01 and 0.97 micrograms per litre, and clearly a level of 8 is higher than that reference range. But that again is a normal result because growth hormone is sometimes produced in response to low blood sugar. So if one has a low blood sugar, their body responds by producing more growth hormone temporarily, which has an action of trying to increase blood sugar. So that high level is an expected normal response to a low blood glucose level.

DRIVER: So you read that as a consequence of rather than a cause of?

GIBBS: Yes. Some children, and it's relatively uncommon, lack growth hormone and that can be a cause of low blood sugar. If that had been the case in [Baby L], his growth hormone level in this blood sample would have been at or below the lower end of the normal range, less than 0.01.

So this shows that a lack of growth hormone was not the cause of the low blood glucose.

DRIVER: We can see there appears to be a comment of some kind below that begins with the letters GH and then

"secretion"? Can you enable us --

GIBBS: Growth hormone secretion is pulsatile, so it comes in bursts throughout the day and night, and a basal, meaning a one-off or random value of little diagnostic value. You'd need to do repeated levels. If you had a persistently high growth hormone level or a persistently very low level you should repeat it at different times of the day to see if that's a persistent reading.

DRIVER: Thank you. Snapshots aren't very helpful?

GIBBS: No.

DRIVER: Thank you.

GIBBS: But the fact it is high does mean low growth hormone is not the cause of a low blood sugar.

DRIVER: Thank you.

Next entry of potential relevance to hypoglycaemia?

GIBBS: The insulin result, which is 1,099 picomoles, pmols, per litre. The comment below that is:

"The interpretation of an insulin level depends on the glucose level."

That is why there is no normal range given for the insulin. But in various textbooks and papers, a rough normal range is somewhere between 150 and 1,500 picomoles per litre. It varies greatly because in the normal situation, in a healthy patient, the blood insulin level will be high if the blood glucose level is high or the blood insulin level will be low when the blood glucose level is low. That's the way the body responds to a blood glucose level. And even though the range isn't given, this is a high reading.

DRIVER: Thank you. How does that square with your understanding of the blood sugar readings taken throughout his short life to date as recorded on the nursing notes that we've glanced at?

GIBBS: This is an unexpectedly high insulin level given that [Baby L] was suffering from a low blood glucose level. But it needs to be further interpreted by looking at the C-peptide.

DRIVER: Is that dealt with below?

GIBBS: Yes.

DRIVER: Expand upon your last answer, please.

GIBBS: So underneath the insulin result, on that left-hand column again, is insulin C-peptide or C-pep. The insulin molecule inside the body is produced with the insulin plus an extra strand of protein called the C-peptide. They get separated from each other when the insulin is secreted by the pancreas into the bloodstream. So you can measure both the insulin level and the C-peptide level.

The C-peptide level is usually higher than, considerably higher than, the insulin level simply because insulin gets removed rapidly from the body in the liver. The C-peptide lasts longer in the bloodstream, so the C-peptide level -- sorry, although from the pancreas, as they're secreted, there should be an equal amount inside the pancreas of C-peptide and insulin, inside the circulating blood C-peptide is higher than insulin.

In this case the C-peptide level is 264, the normal range is quite wide, it says 190 to 990 picomoles per litre, but the important issue is to compare this C-peptide level to the actual insulin level.

DRIVER: And what is the comparison, that comparison, and what conclusions flow from that comparison?

GIBBS: The next result down on the left-hand side is C-peptide/insulin, that really means a C-peptide ratio compared to the insulin. It's a fraction really. The result shown behind that greyed-out box is 0.2 and it's just a ratio, there's no units. The letter outside that grey box says "L" for being low. And the normal range should be between 5 and 10. So in other words, the C-peptide level should be 5 to 10 times higher than the insulin level.

So given that [Baby L]'s insulin level was 1,099, his C-peptide level should be somewhere between 5,000 and 10,000.

DRIVER: And in fact it was?

GIBBS: 264. So there is far more insulin than there is C-peptide, which is a reverse of the normal situation when C-peptide should be higher than insulin for the reasons I mentioned. The significance of this is that natural insulin produced in the body would come with C-peptide, so if this was natural insulin that [Baby L] himself had been producing, his level of C-peptide should have been very much higher than 264 and very much higher than the 1,099 picomoles per litre measured for the insulin.

This means most of the insulin in [Baby L]'s blood test is manufactured synthetic insulin which does not have C-peptide associated with it.

DRIVER: On your review of [Baby L]'s medical records had anybody prescribed [Baby L] with synthetic insulin?

GIBBS: No, and it would have been totally inappropriate to do so. It would be inappropriate to give to anyone who doesn't have a very high blood glucose level. It is inappropriate and dangerous to give it to a patient who has a low blood sugar level.

DRIVER: So not only inappropriate but the reverse of what was required?

GIBBS: Yes.

DRIVER: The opposite of what was required?

GIBBS: Yes.

DRIVER: Could you just assist us with -- assuming that the entry HEMOL is not relevant to the issue of hypoglycaemia; is that a fair assumption?

GIBBS: I think HEMOL must be haemolysis, the breakdown cells, and 0 means they have not broken down because that could affect the blood levels of the various substances growth hormone, cortisol, insulin and C-peptide. But there hasn't been any haemolysis in the sample according to this result sheet.

DRIVER: Thank you. And the final entry, "Random glucose", could you help us with that?

GIBBS: Not available. In other words it didn't come at exactly the same time, presumably, to the laboratory as the blood test from which these results were made. But it's important to compare the insulin level with the blood glucose level, but even without doing that, seeing a much higher insulin level than C-

peptide level is a worry because it means synthetic insulin has been given to a patient that should never have received any synthetic insulin.

DRIVER: So what's meant in this context by random glucose?

GIBBS: It's just a glucose sample taken at any time of the day.

Some of these tests are performed in patients with diabetes or suspected diabetes and it's important to check, to know whether a sample has been done on a patient who's been fasting or a patient who has just eaten. But random means taken at any time of the day.

DRIVER: Thank you. That "Random glucose sample: result under fluoride oxalate tube number", and then we're given a reference number, is that the sample jar?

GIBBS: Yes, the sample tube.

DRIVER: So that would be the tube in which some of [Baby L]'s blood was placed and then sent to the laboratory for testing; is that right?

GIBBS: Yes.

DRIVER: If we look at the back of this divider 15, we'll see the last page which we've stamped J26996. Is there anything on the face of that document to marry it up with the fluoride oxalate tube number 03, I think, 03 for reproduction 24 (sic)?

GIBBS: Can it be brought down a little on the screen, please?

At the top, inside that big rectangular -- black rectangle it says, at the top in the middle:

"Collected 09/04/16."

The time of collection is unknown but the time received in the laboratory was same day, 09/04/16 at 18.26 -- sorry, this is we're looking at the same results we've already looked at sorry.

DRIVER: Right.

GIBBS: There's another one with the fluoride tube, I think, underneath it.

DRIVER: Thank you. So let's --

GIBBS: These results were -- they're the same results we've looked at actually just now. It's a little easier to see because

it doesn't have the greyed-out boxes in it which makes it difficult to read the numbers.

DRIVER: Perhaps we can do that audit trail by going back to page J18025. That was the front piece that we're going to leave for Dr Lewis.

If we look next to Dr Ukoh's name, to the right, in the upper part of the page, it says REQ, "required"

I assume, a colon, then we have the digits 0864930.

GIBBS: Yes.

DRIVER: Which is the required number on the other document that we've looked at.

GIBBS: Yes.

DRIVER: Does that inform you or again would you prefer to defer to Dr Lewis as to whether there's a relationship between these samples and tests?

GIBBS: I think Dr Lewis could answer that better, but it does refer to the blood glucose level done in a fluoride tube, which is on the sheet J26996 that you mentioned, but we haven't seen it on the screen.

DRIVER: Right. I have read REQ as "required", might it actually be "requested"?

GIBBS: Possibly. I think Dr Lewis would let you know. Some of these codes are for the laboratory.

DRIVER: Thank you. Let's go back and put on screen then J26996.

GIBBS: This one here, or even if we go up a little bit, two documents up, not this one, the next one. That's what we see on the screen on the computer. That is the same numbers we've read out, but just more clear. I think sometimes when they're printed off the computer they don't always look as clear. This is what we see on the computer screen looking at the results in the hospital.

But these are the same results we've just discussed.

DRIVER: Thank you. For the sake of completeness let's look at the other document behind the same tile. That's the one we've just looked at --

MR JUSTICE GOSS: That's the one --

MR DRIVER: -- back in our paper bundle.

MR JUSTICE GOSS: That reproduces the same figures on the tiles that -- the paper copies that we do have, but it's obviously much clearer in that format.

MR DRIVER: Indeed.

MR JUSTICE GOSS: And then --

MR DRIVER: Keep going down, we'll see more data, I think, Mr Murphy.

That's the last document, sorry.

(Pause)

MR JUSTICE GOSS: That's the problem, we don't have that one in paper. That was the problem I was identifying.

Before we go on to look at the last document in our bundle, and as Dr Gibbs pointed out, we didn't have this document currently on the screen in paper form. But it reproduces the same figures that you have on J18026, this one.

GIBBS: Yes.

MR DRIVER: We'll put that right in due course and make sure all the documents behind this tile have been provided in paper form.

MR JUSTICE GOSS: I think it'll be more helpful. I've been marking -- the jury can see, I've been highlighting certain things. It's just easier to do in the paper form.

MR DRIVER: So we go back to EL/3 or put that on the screen, so we're still behind tile 190, Mr Murphy. This EL/3 document which we've looked at in paper form, it has the lab references, et cetera, that Dr Lewis will help us with. The next page has the results that you've kindly assisted us with.

I want you to enable us to understand what, if anything, is the relationship between those documents and a document that, Mr Murphy, is behind tile 111.

This document with [Baby L]'s name, with his hospital number, date of birth, blood group, is entitled "Results and management flow sheet". It has a number of entries, the first two of which are for 8 April. Then there's a series for 9 April, two for the 10th, one for the 11th, the 12th and 13 April.

The times are given. "Lab or gas sample", and they're all said to be lab samples. And they all appear -- many of them appear to be in the same handwriting over different times on different dates.

What if anything is the relationship between this results and management flow sheet and the data from the lab-generated document that we looked at and have looked at a few times now and we'll look at again with Dr Lewis in due course?

GIBBS: This is a flow sheet that's filed towards the front of the paper medical record of each baby on the unit and it's an aide-memoire just to keep track of blood results over time and over often many days and sometimes, for some of the babies, the many weeks that they spend on the neonatal unit.

The main relation between this flow chart here and the results we've looked at with the insulin, growth hormone and C-peptide and so on is that somewhere on 9 April, so roughly in the middle of this chart, somewhere before 18.26 -- well, the 18.26 are the results we've just looked at, 9/4 at 18.26 for the time, those are showing some of the results. Those are the electrolytes there and a bicarbonate. But that sample was also analysed for the various hormones, including insulin importantly, that we've just discussed.

Some of these blood tests are available the same day that the blood is sent to the laboratory. The insulin test has to be sent elsewhere and is available about a week later. So it wouldn't have been known at the time. But as you point out, this chart has been filled in with the same handwriting for the first sort of ten or so entries looking across each column. So someone at some point, probably after 10/04, has completed this chart.

We don't need this necessarily when we are managing the babies because we have the computers and the computers give us the flow chart when we look at them.

DRIVER: So is this data that's been uplifted from lab results and, in hand, transposed on to this single flow sheet?

GIBBS: Yes, and these results would all be available within the computer that we look at regularly when we assess babies on the neonatal unit.

DRIVER: We can see the full range of data that can be put on that chart and on occasions is.

Just to remind ourselves, members of the jury, this is the PTO chart that we looked at yesterday that Dr Ukoh had written some of the details on the flip side, the reverse side of that chart.

The results and management flow sheet and the updating of it, is that the responsibility of doctors, nurses or possibly both?

GIBBS: Possibly both, but usually one of the doctors and usually one of the junior doctors.

DRIVER: Thank you. It doesn't appear to be initialled or signed or am I wrong?

GIBBS: No, it's not initialled. No, it's not signed. There's nowhere to sign or initial these results.

DRIVER: Thank you. Finally, if we could go to tile 263.

GIBBS: Before we look at this, there's one result we haven't discussed together. We have mentioned it and you've mentioned the code number for it. It's the actual blood glucose level that was taken at the same time that the insulin, C-peptide, cortisol and growth hormone levels were done. It doesn't seem that Mr Murphy has it on the computer. We're trying to get to it.

MR JUSTICE GOSS: It's the last page in the bundle.

GIBBS: Have all the jury got the bundle?

MR JUSTICE GOSS: Yes, it's the last page in this section.

GIBBS: The last page in section 15, the code number at the bottom right-hand side, J26996, gives the blood glucose level of 2.8, which is a low level. Blood glucose should normally be 4 to 7. In premature small babies it can be lower. We get concerned in a premature baby if the blood level drops to 2.5 or below, so this isn't a very low level, but it is a low level. But at this level of low blood sugar, there should be almost no insulin detectable in the blood. The insulin gets turned off in the body when the blood sugar level is low and, as we've just seen, [Baby L]'s insulin level was high and with this glucose level it should have been low.

The reason it was high, it wasn't his natural insulin, it was injected insulin, and the C-peptide to insulin ratio tells us that.

DRIVER: This is a document that shares the REQ number with the lab-generated document --

GIBBS: Yes.

DRIVER: -- that we looked at and has a corresponding received time and date. That is to say, 18.29.

GIBBS: Yes. It looks like these two samples were received together. The timing is a few minutes apart and it's presumably the time that someone in the laboratory typed them into the computer. But Dr Lewis can confirm that.

DRIVER: Thank you. Let's go to [Baby L]'s clinical notes and your notes of your examination of [Baby L]. If we could scroll down, please. Is that your distinctive handwriting at the bottom of that page?

GIBBS: Yes, that's mine.

DRIVER: Did you examine [Baby L] as 10 am on 10 April?

GIBBS: Well, I've entered this -- made this entry at 10.10. So I had examined him just prior to making this entry. So some time around 10 o'clock or earlier I examined him.

DRIVER: Thank you. You recorded a précis of his history to date?

GIBBS: Yes.

DRIVER: Which includes the fact that he had a low glucose?

GIBBS: Low glucose, leading to 15% dextrose, that's glucose solution, and 120ml per kilogram, a relatively high volume for a baby at this stage, at 10 o'clock in the morning, just finishing his second day, about to enter his third day of life.

DRIVER: And that high volume is designed to address the problem?

GIBBS: Both the higher volume than usual for this age of a baby plus the fact that babies normally only need 10% dextrose glucose and he needed 15% because of his low blood glucose.

DRIVER: There we have the feed/fluids instruction given by you, is that correct?

GIBBS: It just says:

"Feed/fluids 15% dextrose again IV."

DRIVER: I misread that (inaudible: off microphone) 15% dextrose --

GIBBS: And I made the entry that:

"Blood glucose was running between..."

It looks like 21. That's my mistake. It should be 2.1 to 2.2 since, meaning since the 15% dextrose glucose had been started, at about 3 o'clock in the morning by [Dr A], the registrar.

DRIVER: You said 2.2, is that a slip of the tongue or am I misreading your note?

GIBBS: Between 2.1 to 2.3, sorry. Did I say 2, sorry?

DRIVER: Then the plan?

GIBBS: Importantly, [Baby L] looked well, he was lively, as I say there, and examination was normal basically apart from the fact his blood sugars are still low:

"Continue IV 15% dextrose [at the rate of] 120ml/kg per day [in 24 hours]."

That was that needed, to continue with the high percentage of the dextrose glucose solution, because his blood sugars were still low. Then I put down:

"Await blood cultures."

Infection can be a cause of low blood glucose but, as my observation notes above that, the OE, on examination, records [Baby L] looked very well, he was lively, he did not look like an infected baby. But anyway, we were awaiting blood cultures and to continue ABs, that's antibiotics, for now.

But very shortly afterwards, on the same day, at 10.25, I'd been off to the computer to check the results and it shows -- it is cut off at the bottom a bit,

"Blood culture negative", it says at the beginning. CRP less than 1. That's a second CRP that had been performed since he was born. Because his blood cultures were negative and he was looking well and lively in himself and his CRP level had not risen, it was appropriate to stop his antibiotics, so it says, "Stop ABs", and I have signed that little entry.

DRIVER: So therein were you investigating whether infection may be a cause or a contributory cause?

GIBBS: I think by this stage, having stopped the antibiotics, I have decided infection was not a cause of the low blood glucose.

MR DRIVER: Thank you. Could you remain there and answer any questions?

Cross-examination by MR MYERS

MR MYERS: Just a couple of things to check, please, Dr Gibbs. The range of glucose in a neonate, acceptable range, is in the region of 2.6 to 6, isn't it?

GIBBS: Yes, roughly.

MYERS: Roughly. So as you've explained, the figure that we've got in the back page of these paper documents at 26996 of 2.8, that falls within the acceptable range, doesn't it?

GIBBS: It depends. I think at this stage, and you'd have to look back at the fluid chart for 9 April when this blood test was taken, he was on 12.5% at that stage, and a relatively high volume. That's a surprisingly abnormal low blood glucose given the strength of glucose he's receiving and the volume he was receiving.

MYERS: Right. But as it happens, the figure itself falls within the range, doesn't it?

GIBBS: It's a safe figure but an unexpectedly low figure given the amount of the glucose he was receiving.

MYERS: The notes we've just looked at that you produced on 10 April, can we put them back up again, please? T263.

You had the opportunity to examine [Baby L] on this occasion, didn't you?

GIBBS: Yes.

MYERS: Whatever is taking place, on examination he was lively, pink, and appeared to be in good condition, didn't he?

I don't mean to be impersonal when I say "good condition", I mean that in a kind of clinical sense.

GIBBS: Yes.

MYERS: And certainly at this stage, your view was that the issues in association with his blood sugar was that it was consistent with a growth retarded premature infant?

GIBBS: That was the only explanation I could find at that time given that, as I've mentioned -- felt that infection was no longer a likely cause.

MYERS: Right.

GIBBS: But it is surprising that despite 15% dextrose, which is a high amount of dextrose, which needs a central line not a peripheral line, and the volume he's receiving, it is surprising his blood sugar was still relatively low given that he's now coming up to 3 days of age. Low blood sugar in a premature small baby usually resolves within the first 24 hours of life.

MYERS: Nevertheless, it was consistent with a growth retarded premature infant in your opinion?

GIBBS: I felt that at the time, but it's still surprising that it was that low and needing that much glucose to keep it at a low level.

MYERS: I'd just like to -- so we've got it quite clear -- go back to that blood gas record. This is really just through you, if I may, Dr Gibbs, to make it quite clear where the readings come from. Do you remember it's the first thing we looked at in your evidence?

GIBBS: Yes.

MYERS: Ladies and gentlemen, it's in the paper bundles, if you've got them, at page J18000, just to demystify where the figures come from. If you open up the paper bundle if it's in front of you, please, Dr Gibbs and go back to page J18000, you'll find that blood gas record. I'm going to ask Mr Murphy, if he would, to find from the exhibits page 18036 and put that on the screen and then we'll be able to work out what this is.

If we go to 18036 on the screen, this is simply to clarify something, then we've got the detail. We've got paper in front of us. Can you see if we perhaps look at the date first of all towards the top left on the screen so we know what date we're at. Can we just enlarge it? I know because I've enlarged it on my computer that it's 13 April, but it might be difficult for everyone to see there. Thank you.

So this is 13 April for [Baby L]. Then if we pull out and go down towards where we've seen the blood sugar readings towards the bottom, the column for -- thank you. The first column is the column for 01.00. That's 3.6. We'll have a look at the initials in a moment. Can you see the first column, Dr Gibbs, 3.6?

GIBBS: Yes.

MYERS: There we are. I'm grateful for Mr Murphy, thank you.

So 01.00 is 3.6.

GIBBS: And we're presuming these are blood glucose readings.

I can't see anyone's written "blood glucose" next to it.

MYERS: Yes.

GIBBS: But they are in the range of a blood glucose.

MYERS: Yes, and it's in the same place we've seen them written in elsewhere in similar paperwork.

GIBBS: Right.

MYERS: I wonder if it's possible, having done this, to have on the signature line as well, so we've got -- there we are. So if we look at what we've got in paper in front of us and look across to this chart, we can see 3.6 on the screens for 01.00, and we can see the signature at the bottom. If we look on the paper blood gas record we've got 00.54, 3.6, and the signature that we can see there. Do you see that, Dr Gibbs from the paper chart? There's a reading for 00.54. Can you see?

GIBBS: Yes.

MYERS: That reading on the paper is 3.6, isn't it, across from left to right?

GIBBS: Yes.

MYERS: We can see a particular signature there. The reading on the screen for 01.00 is 3.6?

GIBBS: Yes.

MYERS: We can draw our own conclusions as to the signature.

GIBBS: Yes.

MYERS: The next reading down on the paper actually says 05.35.

Do you see that?

GIBBS: On the paper? Yes.

MYERS: Going left to right on the paper, it's 4.6?

GIBBS: Yes.

MYERS: On the paper it looks like IB and AS. I think we know that's Ailsa Simpson's signature, actually. But if we look on the chart electronically for 13 April, again we've got 4.6 at 05.00, haven't we?

GIBBS: Yes.

MYERS: And we've got the signature, letters, initials IB, both it seems paired with whatever the squiggle is beneath them?

GIBBS: Yes.

MYERS: We can go through every page in these to see if we find anything else that correlates like that and anyone can do that, I invite them to do so if I'm mistaken. But it would seem -- this is just to assist -- that the readings we're looking at on the paper chart at 18.00 at 3.6 and 4.6 appear to correspond approximately with the timings and the readings for 13 April. Do you see that, Dr Gibbs?

GIBBS: Yes.

MYERS: I make it plain, I do that to assist. If I've got that wrong anywhere else, I have no doubt I'll be corrected.

So it's not to be difficult.

MR JOHNSON: It's clearly right.

MR JUSTICE GOSS: I was going to say, it would be an extraordinary coincidence if it wasn't.

MR MYERS: Yes. I'm glad there's no contest as to that, but I just wanted to make it plain.

MR JUSTICE GOSS: There's a coincidence of the same initials on both documents. The same times within 35 minutes.

It's in the same time bracket, essentially.

MR MYERS: Yes, there we are. It clears that up.

MR JUSTICE GOSS: It's for the jury ultimately to decide.

MR MYERS: There we are.

MR JUSTICE GOSS: No one's going to suggest otherwise.

MR MYERS: Good.

GIBBS: If I could just stress that regardless of exactly when these blood glucose levels were done and what day they were done, the most significant finding is the high level of insulin and the low amount of C-peptide. So regardless of the blood

glucose levels, [Baby L] had been given insulin that he should not have received.

MYERS: The prosecution keep telling us that, Dr Gibbs, and you're reinforcing that, we can see that.

GIBBS: The blood results tell us that.

MR MYERS: Well, my Lord, I've asked the questions.

Dr Gibbs has chosen to volunteer that. I have got nothing else to ask about that. I'll deal with it with the experts when they come to give evidence.

Re-examination by MR DRIVER

MR DRIVER: Dr Gibbs, when on 10 April you considered the degree to which [Baby L]'s hypoglycaemic history was consistent or otherwise with a typical presentation of a growth restricted premature infant, at that point in time were you appraised of this anomaly of the high insulin and low C-peptide?

GIBBS: No, these results weren't available until a week later.

And although I assumed at the time [Baby L]'s low blood sugars must have been due to the fact he was a small premature infant, it is still unusual to be needing so much glucose at such a rate at coming up to 3 days of age because the low blood glucose due to being premature and small usually resolves in the first 24 hours, so it didn't really fit properly.

I was not thinking at that time that someone might have administered insulin to him. That never occurred to me. The results that came back a week later did show that was the case. Unfortunately, the junior doctors who saw the results and wrote them in the notes did not realise the significance of those results.

MR DRIVER: Does your Lordship have any questions?

MR JUSTICE GOSS: I don't, thank you very much. Is Dr Gibbs due to come back again?

MR DRIVER: Yes.

MR JUSTICE GOSS: Yes, you are indicating, Dr Gibbs, you believe you are. Well, the same direction applies: please don't discuss anything about anything to do with this case with anyone. Thank you very much.

(The witness withdrew)

(Pause)

MR JUSTICE GOSS: I'll hand it to you. Please both of you look at it.

(Pause)

MR DRIVER: This note makes reference to Professor Hindmarsh, who will return to the court to give evidence in relation to [Baby L], which I think is the beginning of an answer to that question.

MR JUSTICE GOSS: Yes. Well, it indicates that this area is going to be addressed. Whether it'll be exactly the same format, we'll have to wait and see, but anyway.

I think so that there's no mystery, I'll just read it out to the rest of you so you know what your colleague was raising:

"The blood sugar level table made by professor Peter Hindmarsh for [Baby F], is there one of those for [Baby L]?"

That was the question. A sensible question, if I may say so.

Thank you. That's it for today then?

MR DRIVER: It is. The statements that remain to be read are short and they fit better with the evidence from the scientists and the laboratory and the like in that context.

MR JUSTICE GOSS: That's where we're going on Monday?

MR DRIVER: Yes.

MR JUSTICE GOSS: Right, good. So it's much better that you have that of a piece rather than getting it now and then hearing the evidence to which it relates after a three-day break.

So 10.30 on Monday, please. Remember your obligations: no research about anything whatsoever to do with anyone or anything to do with this case and no communication by any means with anyone about anything to do with it. Thank you very much.

(In the absence of the jury)

MR MYERS: We'd be grateful if we could speak to Ms Letby at the conclusion of the hearing, my Lord.

MR JUSTICE GOSS: Yes. Could you hear that? Thank you very much.

(4.10 pm)

(The court adjourned until 10.30 am on Monday, 20 February 2023)