

20 June 2024

Joanne Williams, Nurse B, Kate Tyndall

Witness statements: Anne Kember, Shawn Anderson, Dr A, Caroline Oakley, Melanie Taylor, Stuart Eccles

CONTENTS

MRS JOANNE WILLIAMS (sworn)

Examination-in-chief by MR JOHNSON

Cross-examination by MR MYERS

Re-examination by MR JOHNSON

Questions from THE JUDGE

[NURSE B] (sworn)

Examination-in-chief by MR DRIVER

MRS KATE TYNDALL (recalled)

Examination-in-chief by MR JOHNSON

Cross-examination by MR MYERS

Witness statement of MRS ANNE KEMBER (read)

Witness statement of MR SHAWN ANDERSON (read)

Witness statement of [DR A] (read)

Witness statement MS CAROLINE OAKLEY (read)

Witness statement of MS MELANIE TAYLOR (read)

Witness statement MR STUART ECCLES (read)

Housekeeping

Thursday, 20 June 2024

(10.30 am)

(Delay in proceedings)

(10.40 am)

(In the presence of the jury)

MR JUSTICE GOSS: Sorry about the delay. There were technical issues, there was a breakdown and one of the links had to be rectified, but it's all sorted and we are ready to proceed. You'll see the next witness is present in court, she is screened. I have already given you a direction about screens: you attach no significance to a witness being screened; you certainly don't hold it against the defendant or her case that the witness is screened.

MRS JOANNE WILLIAMS (sworn)

Examination-in-chief by MR JOHNSON

MR JOHNSON: Could you keep your voice up nice and loud, a bit louder than when you took the oath, please? And trying to project across the courtroom to the jury, would you tell us your full name?

WILLIAMS: Joanne Williams.

JOHNSON: And your occupation, please?

WILLIAMS: Neonatal practitioner.

JOHNSON: Thank you. We've heard a little bit about the banding of nurses. What band of nurse are you?

WILLIAMS: I'm a band 6 nurse.

JOHNSON: Were you a band 6 nurse back in February 2016?

WILLIAMS: Yes, I was.

JOHNSON: Thank you. Were you working at that time at the Countess of Chester Hospital?

WILLIAMS: Yes, I was.

JOHNSON: And you know, don't you, that you are here to speak about events concerning a child named [Baby K]?

WILLIAMS: Yes.

JOHNSON: As part of your contact with the police concerning the investigation into events at the Countess of Chester, you have spoken to the police on several occasions; is that right?

WILLIAMS: Yes.

JOHNSON: And you have made many witness statements dealing with different facets of different cases?

WILLIAMS: Yes.

JOHNSON: Just dealing with the case relating to [Baby K], have you been spoken to in a tape-recorded environment by the police on three separate occasions?

WILLIAMS: Yes.

JOHNSON: On 27 March 2018, 27 May 2021 and much more recently on 27 March this year?

WILLIAMS: Yes.

JOHNSON: Does the format involve you, in effect, discussing with the police events of a particular child, that being recorded, transcribed and then from the transcript a witness statement being produced to you to sign?

WILLIAMS: Yes.

JOHNSON: Have you had an opportunity to refresh your memory from the statements that you have made before you've come into court today?

WILLIAMS: Yes.

JOHNSON: And for the avoidance of doubt, those statements are dated 10 April 2018, 3 October that same year, 11 June 2021 and 17 April this year.

WILLIAMS: Yes.

JOHNSON: I think you have previously given evidence in the case concerning [Baby K] and that was on 27 February last year.

WILLIAMS: Yes.

JOHNSON: So you've already told us that in February 2016 you were working at the Countess of Chester as a band 6 nurse on the neonatal unit. How long had you been there?

WILLIAMS: I started at the Countess on the neonatal unit in 2006.

JOHNSON: So you'd been working in that environment for about 10 years?

WILLIAMS: Yes.

JOHNSON: On 16 February 2016 were you working the night shift?

WILLIAMS: Yes.

JOHNSON: And did you come on duty at about 7.30 pm?

WILLIAMS: Yes.

JOHNSON: Independently of all the notes and other records, do you have a memory of [Baby K]?

WILLIAMS: Yes.

JOHNSON: And do you remember her being born on that night shift?

WILLIAMS: Yes.

JOHNSON: I want to go, with Mr Murphy's help -- you know the routine, these things come up in front of you -- to tile 36, please, first of all.

You have seen this sort of thing before, haven't you --

WILLIAMS: Yes.

JOHNSON: -- when you have given evidence? It gives us the staff names and their roles to a limited degree. We can see that working in the neonatal unit on the nursing side of things, the registered nurses were Caroline Oakley, who was the shift leader, you -- and you have been put there in bold type as the designated nurse, and that means designated for [Baby K]; is that right?

WILLIAMS: Yes.

JOHNSON: The other two nurses were Lucy Letby and Sophie Ellis, and were both Lucy Letby and Sophie Ellis rather less experienced than you were at the time?

WILLIAMS: They were band 5s.

JOHNSON: Yes. Caroline Oakley, who was the shift leader, was she equal to you, band 6?

WILLIAMS: Yes.

JOHNSON: And did you, from time to time, because of your status as a band 6, perform the shift leader role?

WILLIAMS: Yes.

JOHNSON: There's another nurse called Valerie Thomas, who's described as a nursery nurse on that document.

If we just move down, please, Mr Murphy, we've already heard about the relative status of the children in the various rooms or nurseries. We can see that Valerie Thomas was the designated nurse for children AD, GS and RB. As a nursery nurse, do nursery

nurses have dealings with children like [Baby K], who are rather more fragile?

WILLIAMS: No, but we work as a team and they're very supportive, experienced nursery nurses.

JOHNSON: Would a nursery nurse, for example, be left in charge of a child of such prematurity as [Baby K]?

WILLIAMS: No.

JOHNSON: We can see -- this is the position before [Baby K]'s arrival; okay? We can see that you had a single child at that stage in nursery 2, RN. Do you have now any independent memory of that child?

WILLIAMS: No.

JOHNSON: But we know from the records that [Baby K] was born at 02.12 in the early hours of 17 February. Was the fact that [Baby K]'s arrival was imminent known to you when you started on this shift?

WILLIAMS: I can't remember.

JOHNSON: Do you remember being present at [Baby K]'s delivery?

WILLIAMS: Yes.

JOHNSON: I just want to take that point in time and just ask you a couple of questions about RN and what would have happened with RN. Given that you were to become the designated nurse for [Baby K], what would have happened to RN?

WILLIAMS: Reallocated.

JOHNSON: Can you remember now to whom RN was reallocated?

WILLIAMS: No.

JOHNSON: All right. Does it come to this, that because [Baby K] was so premature, because you were to be the designated nurse, that she was to be your sole responsibility?

WILLIAMS: Yes.

JOHNSON: Okay. If we go to tile 48, please. Can you click on it, please?

This is a typed version of what's underneath and we'll go to the original record, if we may. Can we scroll up to the top, please, Mr Murphy?

(Pause)

There's an issue with this particular document for reasons I don't need to go into. But is this the sort of document that you have seen before?

WILLIAMS: Yes, this is an admission summary.

JOHNSON: Okay. If we go back to the typed version -- so come out one thank you -- do we see there the basic data recorded concerning [Baby K]'s birth?

WILLIAMS: Yes.

JOHNSON: We know, because Dr Jayaram told us yesterday, that that's his writing on the form; do you agree?

WILLIAMS: I couldn't say.

JOHNSON: But it's not yours anyway?

WILLIAMS: No.

JOHNSON: All right. Part of the events surrounding [Baby K]'s birth was that she was intubated, an endotracheal tube was put down her throat, to help her breathe. We've heard that that is a procedure that's completed by the doctors, not the nursing staff; do you agree?

WILLIAMS: Yes.

JOHNSON: And we have heard and we have seen a video of the tube being secured with ties to a hat.

WILLIAMS: Yes.

JOHNSON: Is that the method that was employed on this occasion to secure the tube?

WILLIAMS: Yes.

JOHNSON: Whose responsibility is it to secure the tube?

WILLIAMS: It's a team effort. Someone would be holding the tube in place while we ensure the clamp is tightened and then tied to the hat.

JOHNSON: Was that done in this case as you recall?

WILLIAMS: Yes.

JOHNSON: We've heard that [Baby K] was then transferred into the neonatal unit from the delivery suite and that that is done on a Resuscitaire. Do you check the tube before, during and after the transfer?

WILLIAMS: Yes. Well, we have a CO2 detector, which is placed on top of the ET tube, to make sure that's changing colour, to know the tube's in place.

JOHNSON: Thank you. If we could go to tile 53, please, and there is a hard copy of this behind divider 6B in the white files if anybody would prefer a hard copy. Go to the document, thank you.

We've heard that [Baby K] would have been Neopuffed on the way; is that right?

WILLIAMS: Yes.

JOHNSON: Is that your role or one of the doctors' roles?

WILLIAMS: Again, it's a team (inaudible).

JOHNSON: To where was [Baby K] taken, as you remember, within the NNU?

WILLIAMS: Into the intensive care room, first cot space on the right.

JOHNSON: Have you marked -- did you mark a plan at some stage?

Do you remember doing that?

WILLIAMS: I can't recall.

JOHNSON: Okay. I think we've got it, what we believe is the right one. It's YG20 and we'll put it on the screen.

If you don't recognise it can you please, say so.

WILLIAMS: I don't recognise this.

JOHNSON: Right. It's Yvonne Griffiths, that's my mistake. Okay.

Forget about that then.

But you say put in an incubator on the top right-hand corner of the nursery; is that right?

WILLIAMS: On the right-hand side.

JOHNSON: Yes. Whose responsibility is it to attach [Baby K] to the ventilator?

WILLIAMS: Again, it is a team, so it's who's there. Obviously I would be there transferring her into the incubator and attaching the equipment.

JOHNSON: Yes. Do you take care with the position of the tube as that process is undertaken?

WILLIAMS: Yes. That's where it needs to be a team approach (inaudible) number of people.

JOHNSON: Is the security of the ET tube checked once the baby is in the incubator?

WILLIAMS: Yes.

JOHNSON: And was [Baby K] connected to other monitoring?

WILLIAMS: Standard monitoring, Philips monitors, yes.

JOHNSON: And they give readings for saturations, respirations --

WILLIAMS: That's correct.

JOHNSON: -- and that sort of thing? All right.

Can we go to tile 58, please. It may be more convenient for you, Mrs Williams, it's entirely a matter for you, but this chart is also behind divider 6D in that white file in front of you. The problem with the screen is you don't get a full view of the page at the same time. To have the full thing in front of you might just help you a bit more. It's a bit illegible on the screen if we pan out to give the full view.

Do you recognise the writing on this form, first of all, or this chart?

WILLIAMS: Where on the chart?

JOHNSON: Very good question. In the early part of 17 February.

WILLIAMS: Yes. It's my signature from 03.30.

JOHNSON: Is your final signature in the 07.30 column?

WILLIAMS: Yes.

JOHNSON: Is that about the time that handover is made to the day shift?

WILLIAMS: Yes.

JOHNSON: [Initials of Nurse B], which is the initials that appear immediately to the right of your final initials timed at 08.30, is that [Nurse B]?

WILLIAMS: Yes.

JOHNSON: Dealing with the records that you made first, please, you have timed the first entry at 02.45. What's the significance of that time?

WILLIAMS: That would have been the opportunity -- when we've carried out those observations.

JOHNSON: So does it mean that by that stage that's your first opportunity, once [Baby K] has been safely transferred from the delivery suite to the neonatal unit, to take the relevant observations?

WILLIAMS: In the incubator, yes.

JOHNSON: Yes. We can see the heart rate recorded and you have actually written in 157. The respirations, which is a cross in a circle, is that because she was attached to the respirator or --

WILLIAMS: The ventilator, yes.

JOHNSON: Sorry, yes -- at that time. Her temperature, and you have again written than in manually on top of where you've put the dot.

WILLIAMS: Yes.

JOHNSON: The cot or the incubator temperature, the humidity, the saturations of [Baby K] -- that's the oxygen in her blood; is that right?

WILLIAMS: Yes.

JOHNSON: Is that on 100% oxygen at that stage?

WILLIAMS: Yes.

JOHNSON: Her blood pressure and the mean blood pressure. In other words, the mid-point between 50 and 31?

WILLIAMS: Mm-hm, yes.

JOHNSON: That's all your writing?

WILLIAMS: I don't -- that 02.45 doesn't look like my writing.

JOHNSON: Okay. What about the 157?

WILLIAMS: No.

JOHNSON: That's not your writing either?

WILLIAMS: No.

JOHNSON: What about the 38.5?

WILLIAMS: No.

JOHNSON: No? And the numbers below that from the cot incubator temperature down to mean 42?

WILLIAMS: No. It's not my writing on the left-hand side where humidity -- 02. That's -- someone else has started that for me, which is not unusual when you're working in that environment, it's a team approach, as I keep saying.

JOHNSON: Okay. But none of that writing then, you're saying, in the 02.45 column is yours?

WILLIAMS: No.

MR JUSTICE GOSS: Nor to the left of it? In other words, humidity, saturations, oxygen, blood pressure, et cetera?

MR JOHNSON: Thank you.

We'll come to these individually, but let's see what the parameters are first of all. The entries in the 03.30 column, insofar as you can tell, are they in your writing?

WILLIAMS: Yes.

JOHNSON: The 04.30 column?

WILLIAMS: Yes.

JOHNSON: The 05.30 column?

WILLIAMS: Yes.

JOHNSON: 06.30?

WILLIAMS: Yes.

JOHNSON: And 07.30?

WILLIAMS: Yes.

JOHNSON: I'd like to go to the tile that shows us the readings at 03.30 next, please, Mr Murphy. So the observations, first of all, which -- well, let's deal with them in the order that they appear in the document, starting at tile 84, please. Click on that, please.

We've got the same document that you have there in hard copy. But we've established that this is now your writing in the 03.30 column?

WILLIAMS: Yes, that's correct.

JOHNSON: And we can see that [Baby K]'s saturations have gone from having been 70 at 02.45 to 94 at 03.30?

WILLIAMS: That's correct.

JOHNSON: Yes. We know that's a positive sign; yes?

WILLIAMS: Yes.

JOHNSON: We can see that the amount of oxygen that's being administered down the ET tube has gone from being 100% oxygen to -- what have you written there?

WILLIAMS: It is difficult to see what I've written there, I agree.

JOHNSON: Is it either 44 or 49?

WILLIAMS: 49 I would say.

JOHNSON: 49, okay. So again, is that a positive progression?

WILLIAMS: Yes.

JOHNSON: So receiving less oxygen but saturations increasing?

WILLIAMS: Yes.

JOHNSON: Is that pretty much where you'd like the saturations to be?

WILLIAMS: Obviously, there would have been a number of things, she would have been administered surfactant by then, so that's all looking good.

JOHNSON: All looking good, okay.

Tile 85, please. Could we just go back to 84, Mr Murphy, thank you, to the original, please.

What we're dealing with now are documents that are all timed as 03.30. All right? I'm showing you them one by one and what I would like you to think about, I won't ask you to tell us at this stage, but I'm going to ask you whether you recall the order in which these things were done given that they all have the same time.

All right?

So at 03.30, if you look at the patient's name column, we have three lines which are not blanked out.

At 03.30 we have two entries, the first is "Female infant [Surname of Baby K]", as I say, it's 03.30, "1x 50ml", we can see at the top it's morphine. Whose signature is in the next column, please?

WILLIAMS: For the first one at 03.30?

JOHNSON: Yes.

WILLIAMS: Myself and then Lucy.

JOHNSON: Yes, okay. We've heard, and I don't think this is controversial, that the morphine is kept in a locked cupboard in nursery 1; is that right?

WILLIAMS: In this instance we had premade syringes which were kept in the fridge in our equipment cupboard in a locked fridge.

JOHNSON: Where is that?

WILLIAMS: That is opposite the nurses' station.

JOHNSON: Okay.

WILLIAMS: Adjacent to the nurses' station.

JOHNSON: Okay. Well, let's just deal with that if we can.

In that bundle you've got in front of you, if you go back to divider 4, there's a map, a floor plan, and the second page

behind divider 4 is an easier read. We know from other evidence where the nurses' station is, it backs in effect -- if you were sitting behind it, you'd have your back to the wall of the other side of nursery 1; is that right?

WILLIAMS: Sorry, can you repeat that?

JOHNSON: Can you see where it says "nurses' station" on the plan?

WILLIAMS: Yes.

JOHNSON: If you were sitting on the chair behind the nurses' station your back would be to one of the walls of nursery 1?

WILLIAMS: That's correct.

JOHNSON: So just imagining that you're sitting in one of those chairs, in which direction is the locked fridge?

WILLIAMS: In a room on the left.

JOHNSON: So down towards the bottom of the plan; is that right?

WILLIAMS: Yes.

JOHNSON: And is it the room that's marked on there as "storeroom"

or is it the cabinet in the sterile store?

WILLIAMS: I think it would be -- it was a locked fridge, so I would say that... I don't know looking in to this plan because it's a room that -- I would say, by the size of it, that would be the room. It was a tall fridge at the time.

JOHNSON: Okay. We do have a video. Is it in that room where it says "med cabinet and sterile store"?

WILLIAMS: Yes, I think so.

JOHNSON: Okay. Can you just talk us through what would have been involved when the document that is behind divider -- at tab 84 and is also behind divider 6G of that bundle in front of you -- where would that document have been filled in?

WILLIAMS: We have a controlled drug book.

JOHNSON: Right. Is the book kept with the drugs?

WILLIAMS: On top of the fridge.

JOHNSON: So that's on top of the fridge. So this would involve somebody going into that room --

WILLIAMS: Yes.

JOHNSON: -- to get both the drugs and the book?

WILLIAMS: Yes.

JOHNSON: Is the book removed from the room?

WILLIAMS: It can be.

JOHNSON: Whose writing is it in "03.30 FI [Surname of Baby K] 1x50ml"?

WILLIAMS: My writing.

JOHNSON: That's your writing. Therefore would Lucy Letby have had to have been with you whilst this is being done?

WILLIAMS: Not necessarily. I could bring it to her.

JOHNSON: So you could take the book to her in effect?

WILLIAMS: Yes.

JOHNSON: To check what you had retrieved from the fridge and to sign the book?

WILLIAMS: Yes, and she would just lead to look at the running balance of the stock, because that's on the stock balance, so it would be clarifying how many we'd got left in the fridge.

JOHNSON: So that's the final column; yes?

WILLIAMS: Yes.

JOHNSON: So three left after this one. One is thrown away then at the same time?

WILLIAMS: One I found to be expired.

JOHNSON: It says "discarded" in one of the columns, doesn't it?

WILLIAMS: Yes.

JOHNSON: And you and, is that [Nurse B], signed that?

WILLIAMS: Yes.

JOHNSON: Okay. Is that being done at the same time?

WILLIAMS: No.

JOHNSON: When is that second thing done that's also timed at 03.30?

WILLIAMS: From recall, I would say that I've gone to the fridge and I've looked at the morphine, there's one expired that I can't use, however that needs to be double-checked as well if it's discarded. [Nurse B], being the shift leader the next day, I have done that, I've removed the syringe from the usual stock and had her countersign it to say that we would discard it and it's witnessed.

JOHNSON: So that's to keep a tally --

WILLIAMS: Of the stock, yes.

JOHNSON: -- of what are controlled drugs at the end of the day?

Yes. All right.

Can you remember now why the syringe of morphine was removed to be used on female infant [Surname of Baby K], as she's recorded there?

WILLIAMS: Why the syringe would be used?

JOHNSON: Yes.

WILLIAMS: Because it was prescribed that she was to start a morphine infusion.

JOHNSON: Would you have anticipated a prescription or would you have been told, "This is going to be required"?

WILLIAMS: For ventilated babies we would be -- our policy is to start them on a morphine infusion.

MR JUSTICE GOSS: So the answer to the question then?

WILLIAMS: I don't recall whether I've pre-empted to get it out because she is there and this could be done while they are siting a cannula or the cannula is there, the prescription is ready. I don't recall.

MR JOHNSON: It could be either?

WILLIAMS: It could be either.

MR JUSTICE GOSS: Because you would know that morphine would be administered?

WILLIAMS: Yes.

MR JOHNSON: So far we've got two documents with 3.30 written on. We've got that that we see on the screen, we've got the yellow and white pre-printed record that you fill in at 03.30. If we move on, please, to tile 86, Mr Murphy.

There are two sides to this chart. If anybody wants to look at it in hard copy it's behind divider 6E. I'm looking at the left-hand side of the page first of all.

On the left-hand side, the first timed entry is timed at 03.30; can you see that?

WILLIAMS: Yes.

JOHNSON: I'm just going to ask you to ignore for a moment the "major events" line, which is one from the end. Just ignoring that one, is the writing in the 03.30 column your writing?

WILLIAMS: Yes.

JOHNSON: Is the writing in the major events column, which appears to say "03.50, 100ml per kilo morphine", is that your writing?

WILLIAMS: No. It's not unusual, again, working as a team, for when things happen, this is where we can document it, because we're not doing our notes to real time.

JOHNSON: Yes, okay. What do you mean by not doing them to real time?

WILLIAMS: Obviously writing notes on Meditech, that requires you sitting down to write them at a point where you are able to do so.

JOHNSON: Is that the computerised system?

WILLIAMS: It is, yes.

JOHNSON: Okay. As opposed to this, is that what you're saying?

WILLIAMS: Yes. So this can happen within the hour -- if something happens in that hour that we feel is appropriate to document, that will need to be noted, we can write it in there.

JOHNSON: Whoever it was that wrote this, is there any reason that someone anyone other than you as the designated nurse would be writing on this chart?

WILLIAMS: To be helpful.

JOHNSON: Right. So that's another 03.30 time. On the right-hand side of the page we see more information recorded at 03.30. Have you got there?

WILLIAMS: Yes.

JOHNSON: Are they your initials on the very far right of that line?

WILLIAMS: Yes.

JOHNSON: Is all the writing in that line your writing?

WILLIAMS: I believe so.

JOHNSON: The writing at the top of the page, in other words [Baby K]'s details, is that your writing?

WILLIAMS: Yes.

JOHNSON: Is the fluid requirements handwriting your writing?

WILLIAMS: Yes.

JOHNSON: And the "10% dex, morphine, dopamine, dobutamine bolus", are they all your writing?

WILLIAMS: No.

JOHNSON: Which bits --

WILLIAMS: "10% dextrose" is my writing. "Morphine" is my writing and "bolus" is my writing. Again, because the dobutamine and dopamine have been started at 09.30, as you can see from this chart, that would be someone else who started that.

MR JUSTICE GOSS: In other words then when you've written "bolus" there, have you left those two columns blank if you have written "10% dextrose morphine" --

WILLIAMS: Yes. I would have until 09.30, until they started the inotropes, yes.

MR JUSTICE GOSS: Right. I'm just trying to understand the sequence of the compilation of this chart.

MR JOHNSON: Now, having established what you've written and what you haven't written on this form, there are two or three readings I would like to ask you about on the left-hand side, so in the column that runs from the top to the bottom of the page as we're looking at it in landscape. One is VTE, the next is leak, and then the final one is SaO2.

So we see:

"VTE, 0.4. Leak, 94. Sats [or oxygen saturations], 94."

Do you remember writing those figures at the time?

No?

WILLIAMS: I can't remember writing them at the time, 8 years ago now.

JOHNSON: Yes, sure. Did you draw them to the attention of anybody at the time, those particular figures, do you remember?

WILLIAMS: As per my statement, I noted that there was a 94% leak that was -- obviously when you go through your ventilation checks, and we'll be doing them every hour, that that's what was -- I've written that there was a leak of 94. As in my statement, my job would be to escalate that. That is looking at the clinical picture of [Baby K], that everything else -- she was saturating well and clinically looked well, but there was a leak, and I've written it down there.

JOHNSON: So by escalation, do you mean draw it to the attention of the medical staff?

WILLIAMS: Yes.

JOHNSON: In this case that would be who?

WILLIAMS: Either the registrar, Dr Smith, or...

JOHNSON: Dr Jayaram?

WILLIAMS: Dr Jayaram, yes.

JOHNSON: Thank you. Do you recall that -- well, I need to deal with a point I was lining up at the beginning. So of all that information that is recorded at 03.30, do you remember the order in which things were being done?

WILLIAMS: Not from recollection.

JOHNSON: No, okay. Would you normally, as the designated nurse with a child like [Baby K], have been required to communicate [Baby K]'s progress to her parents?

WILLIAMS: Yes, we feel it's very important to keep the parents updated and obviously the opportunity for them to come through to see their baby.

JOHNSON: Yes. Can you remember now, in the context of the material that we've just reviewed, when it was that you communicated with the parents?

WILLIAMS: I can see how it appears that at 03.30 I did a lot of things at 03.30 and I would say for observation, understanding that we obviously make sure that we are continuously monitoring, but documenting observations hourly, so it may be at 03.25, but it would be the 03.30 observations that are due. According to my notes that I'd written, my statement, I have said that I left the unit at approximately 03.30 to go and update the parents.

JOHNSON: How precise is that timing?

WILLIAMS: That's according to my notes. That's why I put an approximate.

JOHNSON: Okay. Do you religiously take these readings on the button at 03.30?

WILLIAMS: No.

JOHNSON: So there is a margin of appreciation, if you like, as to either side of that particular time, when all these tasks were being performed --

WILLIAMS: Absolutely.

JOHNSON: -- and recorded?

WILLIAMS: Yes.

JOHNSON: All right. Do you have any other recollection now, independently of the documents, as to when the morphine was actually administered?

WILLIAMS: Only via the documentation.

JOHNSON: Only via the documentation, okay. Just before we move on to you moving out of the neonatal unit and going to see the parents, I just want to deal with one other thing on the form that we've got up there, which is J17088.

If we look in the 04.30 column, please, on the right-hand side of the page -- I say column, it's a line on the right-hand side of the page. We can see that various totals, running totals, are being recorded; is that right?

WILLIAMS: Yes.

JOHNSON: So reading across in the 04.30 line, first of all we've got the dextrose at 10%; is that right?

WILLIAMS: Yes.

JOHNSON: And by 04.30, 2.8ml had been administered; is that right?

WILLIAMS: Yes.

JOHNSON: By the 04.30 line, 0.35 of morphine had been administered?

WILLIAMS: Yes.

JOHNSON: The rate, the hourly rate, is 0.5 for the morphine; is that right?

WILLIAMS: I would have to look at the prescription chart.

JOHNSON: Okay. I think if you go to -- just turn back to 6C in these documents, you'll find that. If we turn it into landscape, it's page 17074. I think I've misquoted it so it's as well we've looked. What is the hourly rate?

WILLIAMS: 0.34.

JOHNSON: 0.34, thank you. So by 04.30, 0.35 has gone through; is that right?

WILLIAMS: Yes.

JOHNSON: That again, I suppose from the way you've just said yes, depends on whether it's exactly at 04.30 you took the reading?

WILLIAMS: Absolutely.

JOHNSON: Yes, all right. So we've all got the point, I'm sure.

So in that context I would like now to ask you about going to see [Mother of Baby K] and/or her husband in the delivery suite. In terms of the distance that you'd have to travel, how far do you have to go?

WILLIAMS: The neonatal unit was right next to labour ward.

I can't remember what room [Mother of Baby K] was in.

JOHNSON: Okay. I would like to give you an end time that we can work with; okay? If we go to tile 98, please. This is door swipe data from the door connecting the neonatal unit to the labour ward. We have found out that it was misnamed in the database; okay? What appears on the screen is.

"Maternity neonatal to labour ward (in)."

Which would suggest to most people it's recording someone going from the maternity unit to the labour ward, but in fact it's the other way round; do you understand?

WILLIAMS: So it's swiping into labour ward?

JOHNSON: No, swiping to get back into the neonatal unit.

WILLIAMS: To the neonatal unit, yes, because there was only one swipe.

JOHNSON: Is it a button to get out of the NNU?

WILLIAMS: Yes, to get into labour ward.

JOHNSON: But you need security clearance to do it the other way?

WILLIAMS: Yes.

JOHNSON: So you agree that that's a mislabel, good.

So we know that having been to see [Mother of Baby K] and her husband, you were coming back, at 03.47, through the door?

WILLIAMS: According to the swipe data.

JOHNSON: According to the swipe data, absolutely. And we know -- I'm giving you the bookends, if you like -- at the beginning there's all that data from 03.30.

WILLIAMS: Yes.

JOHNSON: At some point you've gone to see [Mother of Baby K] and her husband and you've come back at 03.47?

WILLIAMS: Okay.

JOHNSON: Knowing all that, and taking into account the distances that you've just told us about, how long, to your recollection, would you have been with [Mother of Baby K]?

WILLIAMS: Again, that's difficult to say, to recall for 8 years ago. I would have been conscious to get back to [Baby K] and the unit -- she's got the staff, but obviously I deemed it very important to update the parents, as I would with any baby.

JOHNSON: Yes. Would you have left [Baby K] on her own?

WILLIAMS: No.

JOHNSON: So just going back to the population chart, Mr Murphy, at tile 36, which of the nursing staff that were on duty were actually of sufficient seniority to supervise [Baby K] in your absence?

WILLIAMS: Again, it would be a team approach, so that wouldn't be Valerie Thomas, but collectively having three other registered nurses on the unit, then I would say all of them would support.

JOHNSON: Would you hand her over specifically to one other nurse or would you let all the other nurses know, or what system was in place?

WILLIAMS: It would depend on the situation. I wouldn't know if someone is feeding in nursery 2, nursery 3, so who was available to be able to effectively watch [Baby K] while I was out of the unit.

JOHNSON: Okay. If we go to tile 93, please. Here we can see that Caroline Oakley had been out of the unit and was coming back in at 03.40, which is 7 minutes before you come back in from the delivery suite. Okay?

WILLIAMS: Okay.

JOHNSON: We don't know when she left, but we know she came back in at 03.40. Would you have left [Baby K] under the control of somebody who was going to be off the unit in the time that you were going to be absent?

WILLIAMS: It would depend how long she was gone from the unit, because that could be as simple as going to get donor milk out of the donor milk room. It would be an expectation -- and we do and always have been aware of people leaving the unit -- to be aware that then someone is always looking after those babies and listening out for those babies.

JOHNSON: So does it come to this then, that whoever it was, and you can't remember, your objective was to make sure that somebody was watching her like a hawk while you were absent?

WILLIAMS: And I was also very aware that Dr Jayaram was on the unit, a consultant was on the unit.

JOHNSON: Do you remember speaking to Dr Jayaram as you left to update the [Family of Baby K]?

WILLIAMS: I don't recall.

JOHNSON: Would you normally?

WILLIAMS: Usual practice would be to make myself (sic) aware that I was not present in nursery 1 at that time with [Baby K].

JOHNSON: What condition was [Baby K] in when you left at whatever time it was?

WILLIAMS: Well, as I've said in my statement, she would have been stable to the point of what is accepted as a 25-week gestation baby as stable, but she was oxygenating and otherwise I wouldn't have left, which is what I've said.

JOHNSON: From your perspective, who was the priority, [Baby K] or [Baby K]'s parents?

WILLIAMS: Both. Both are priority because they come -- they're a family.

JOHNSON: Of course. Did the family have other nursing support with them?

WILLIAMS: They would have had midwifery staff, but they wouldn't be aware at what point [Baby K] was stable or not.

JOHNSON: Were you going in effect to tell the [Family of Baby K] that [Baby K] was doing well in all the circumstances?

WILLIAMS: It was to update the parents and obviously we were in conversations with the transport team in the hope of obviously getting [Baby K] transferred to Arrowe Park, so that's important information for families to know about that, to be able to be prepared.

JOHNSON: Yes. Before you left, would one of the things that you would have done be to check that the ET tube was in the correct place?

WILLIAMS: I would have checked it on my 03.30 observations.

JOHNSON: Is that shortly before you left?

WILLIAMS: According to the data swipe, me coming back in at 03.47 and my note saying approximately at 03.30, I updated the parents.

JOHNSON: I understand, we all understand, that it's impossible now for you to remember precisely how long you were with the [Family of Baby K]. But this sort of update presumably is something you've done on many, many occasions?

WILLIAMS: Yes.

JOHNSON: What are the general time parameters for how long that sort of thing takes?

WILLIAMS: That completely varies on families, it completely varies on the baby, the condition of the baby, the situation itself and it's an individual...

JOHNSON: But would you have been gone very long?

WILLIAMS: No, because, as I said, I would have been very conscious to come back to [Baby K] and support obviously the rest of the staff and the babies on the unit.

JOHNSON: Go to tile 98, please. This is the door swipe data of you coming back in. Do you remember hearing anything as you came back into the unit?

WILLIAMS: Only through reading my statement, my own original statement.

JOHNSON: What could you hear?

WILLIAMS: That alarms were going off.

JOHNSON: What sort of alarms?

WILLIAMS: Obviously there's a level of alarms that alert. There's an amber warning if a baby -- maybe the heart rate is dropping, not significantly, but starting to. The same with the saturations. But the alarms were very -- we're trained to respond to them.

JOHNSON: Yes. And from where was the alarm coming?

WILLIAMS: From nursery 1.

JOHNSON: Yes. Did you go into nursery 1?

WILLIAMS: I would have thought, but I only -- I can't recall.

JOHNSON: Do you remember anything you saw when you got to nursery 1?

WILLIAMS: Just that people were in the room when the alarms were going off.

JOHNSON: Can you remember who was in the room?

WILLIAMS: I remember Dr Jayaram being in the room and Lucy being in the room.

JOHNSON: Was this an emergency?

WILLIAMS: Yes. It is responding to alarms, but again I can't recall what her -- I don't recall walking in and seeing her saturations. I don't...

JOHNSON: Can you remember what was being done by either Dr Jayaram or Lucy Letby?

WILLIAMS: No, not at that time.

JOHNSON: Did you play any part in the resuscitation of [Baby K]?

WILLIAMS: Again, I don't recall at that point. I feel I would have been.

JOHNSON: Okay. Can we go to tile 101, please? These are nursing notes that you appear to have made. If we go to the original, please, Mr Murphy.

So what we have here are notes made approximately an hour or so later. Can you see the time between which you made these notes?

WILLIAMS: Yes.

JOHNSON: So does this mean that you started at 04.48 and finished at 05.07?

WILLIAMS: I believe so, yes.

JOHNSON: You've recorded basic facts concerning the delivery of [Baby K], who at that point was unnamed, just named as baby girl?

WILLIAMS: Yes.

JOHNSON: "Intubated at approximately 12 minutes of age."

Were you present when that intubation had taken place?

WILLIAMS: I was through on the delivery suite, yes.

JOHNSON: You've recorded the Curosurf being administered, the fact that [Baby K] was taken from the delivery suite to the neonatal unit and put into a humidified incubator and her weight; is that right?

WILLIAMS: Yes.

JOHNSON: You then summarise the data that you recorded on the handwritten form about the ventilator and the leak; is that right?

WILLIAMS: Yes.

JOHNSON: You then put:

"Approximately 45 minutes later, began to desat to 80s."

Later than what is the question, if you can answer it, please?

WILLIAMS: Later than when commenced on the ventilation.

JOHNSON: Okay. You had recorded the commencement of the ventilation at 02.45?

WILLIAMS: Yes. Well, that's what I've taken -- someone has taken those observations.

JOHNSON: Yes. Not you -- or you didn't record them anyway?

WILLIAMS: I didn't record them.

JOHNSON: "Dr Jayaram in attendance and on examination colour loss visible, no colour change on CO2 detector."

Then what have you written?

WILLIAMS: I've put a question mark, which is an abbreviation for query.

JOHNSON: "... ETT dislodged".

Was that the working theory at the time?

WILLIAMS: If I've written that, yes.

JOHNSON: Would you have checked the tube to see if it was blocked?

WILLIAMS: Not me personally, but Dr Jayaram was in attendance.

JOHNSON: "Removed and re-intubated on second attempt by Registrar Smith with 2.5 ETT measuring 6.5 centimetres at the lips. Air entry clear and equal."

Then this -- should that say large?

WILLIAMS: Probably.

JOHNSON: "Large amount bloodstained oral secretions."

Where did that information come from?

WILLIAMS: I've written it so I've seen it.

JOHNSON: And:

"Temperature on admission, 38.5. Was nursed on TransWarmer."

Is that the -- is there another word for a TransWarmer?

WILLIAMS: A TransWarmer is a specially designed heated mattress.

So you have your Resuscitaire, which is the actual equipment, and the TransWarmer is something you use for extreme preterms, it keeps them warm.

JOHNSON: Yes. And you then set out her present temperature, the fact that the cannula had been inserted by Dr Smith, that the dextrose had been started, septic screen performed, given antibiotics, penicillin and gentamicin, intramuscular vitamin K. Then:

"Bruising to [Baby K]'s hands and feet."

Which were typical of a breech delivery; is that right?

WILLIAMS: She was a footling breech, yes.

JOHNSON: You said:

"At the time of writing, the registrar is trying to insert umbilical lines. The plan is to transfer to Arrowe Park"; is that right?

WILLIAMS: Yes.

JOHNSON: Were there two subsequent occasions to this occasion when [Baby K] had a sudden drop in saturations?

WILLIAMS: Yes, according to my notes.

JOHNSON: Do you have any independent memory of them?

WILLIAMS: I remember the night and I remember her desatting, desaturating, a number of times and having to re-intubate her. That is what I recall.

JOHNSON: Do you recall any cause being identified, as far as you were concerned, for the reason [Baby K] desaturated on the second and the third occasions?

WILLIAMS: No.

JOHNSON: Can we just go to tile 124, please? This is your later notes. You refer at the bottom of the page -- I'll deal with them in chronological order.

So right at the bottom, this is a note of your dealings with the family; is that right?

WILLIAMS: Yes.

JOHNSON: So made at about the same time as the previous note, just after. They had been updated straight after the delivery by Dr Jayaram, photos had been taken, and a treasure box and Bliss bag given. Who gave the treasure box and Bliss bag?

WILLIAMS: I don't recall, but if I've written it, potentially me, myself.

JOHNSON: Would that have been done during your trip out of the NNU just before you came back to find [Baby K] desaturating?

WILLIAMS: I don't recall because, as you can see further on, both [Parents of Baby K] came through to the unit. I could well have given it to them then while they were present on the unit.

JOHNSON: Okay. Going up to page then to deal with what I was asking you just before that about the two further episodes. Other than what you have recorded there, do you have any further memory of either/or both of those episodes?

WILLIAMS: Other than what I've written, no.

MR JOHNSON: Could you wait there, please? There will be some more questions.

MR JUSTICE GOSS: I'm in your hands. If you're only going to be 5 or 10 minutes then we can start, but otherwise I would suggest we have a ten-minute break.

MR MYERS: Yes, I think a break would be helpful. I know the stenographers have to keep up as well, so maybe this is a good time, my Lord.

MR JUSTICE GOSS: Yes, thank you.

So we're going to have a ten-minute break. You just stay where you are for the moment, please, Mrs Williams.

Just 10 minutes, members of the jury.

(11.42 am)

(A short break)

(11.54 am)

Cross-examination by MR MYERS

MR MYERS: Nurse Williams, I'm going to ask you some questions on behalf of Ms Letby.

Just to get everyone's mind in the right place, what you're being asked to recall, when it's outside the notes, are events about 8 years ago, isn't it?

WILLIAMS: That's correct.

MYERS: And we know that you have made some statements to the police and spoken with them at intervals over the years, haven't you?

WILLIAMS: Yes.

MYERS: Where there are notes, that helps you remember precisely what happened; is that right?

WILLIAMS: On recollection of my notes, yes.

MYERS: On your notes from the time. Some parts of the events do stand out in your recollection; is it fair to say that?

WILLIAMS: I remember [Baby K], yes.

MYERS: Yes, you remember [Baby K]. But other details may be matters you simply can't remember accurately after this much time?

WILLIAMS: In certain --

MYERS: In certain areas?

WILLIAMS: Yes.

MYERS: All I am going to say is that where that happens, please say so.

WILLIAMS: Okay.

MYERS: So if I am asking something which is just too much of an approximation, by all means say so.

WILLIAMS: Yes.

MYERS: It's important not to feel you're committing yourself to something you can't be sure about.

WILLIAMS: Yes, absolutely.

MYERS: A general thing I'm going to ask is this, and it's something you made reference to, a couple of times you talked about things being team effort on the unit?

WILLIAMS: Yes.

MYERS: Is it the case, looking after babies like this, that you need to work with one another to manage all the tasks that you have to deal with?

WILLIAMS: Absolutely.

MYERS: That might apply to actual physical tasks that you're undertaking with the babies; is that correct?

WILLIAMS: Yes.

MYERS: And it might also apply to how you go about taking readings and observations?

WILLIAMS: Yes.

MYERS: So that although there may be a particular nurse allocated to a particular baby, conducting observations, another nurse, for instance, might write down things that occur during that period?

WILLIAMS: Yes.

MYERS: I'm going to go to some of the records and ask you if you can assist us with them. If you can't, please say so.

The first one I'm going to ask if we could put up is tile 62, which is a prescription for surfactant. I'm going to go into it and have a look, if we may, at what's behind this tile.

We've got it on the screens and, ladies and gentlemen, we also have this one behind the documents in divider 6A if you want it in paper, but it's on the screens in any event.

We've looked at these type of prescriptions already in this trial, Nurse Williams, so I'm not going to ask you to go through everything we see on this. But by all means acquaint yourself with it. If you're looking through the paper copies in red it says 17062 at the bottom right-hand corner of the page.

WILLIAMS: I've got that.

MYERS: I'm going to ask if we can scroll down to the administration history details. We can see it says:

"Scheduled: 17/02, 05.44."

Then:

"Administered: 17/02, 03.00."

It gives the dose and then across from that, to the right, it's got the user. Is that your name, so far as the computer is concerned, where it says user?

WILLIAMS: Yes.

MYERS: Thank you. Then the co-signer, is that the data for Dr Lo?

WILLIAMS: That must be the SHO who was --

MYERS: The SHO, the senior house officer. Could you just help us: when a form like this is used, is the data entered as part of the process of giving the medication or ongoing?

WILLIAMS: No.

MYERS: Can it be done later sometimes?

WILLIAMS: Retrospectively.

MYERS: Does this help us with when the surfactant was administered? Does it have a time for that?

WILLIAMS: It does because we've given -- it's been scheduled, so when it's been processed and prescribed on the computer system that would likely be at that time of 05.44. But actually, we can have the ability to edit it to make sure that the administration correlates with ideally when you gave it.

MYERS: So ideally where it says "administered", that should be the time it was given?

WILLIAMS: Yes.

MYERS: So if that is accurate that would be 03.00?

WILLIAMS: According to this.

MYERS: According to this. Do you know who will have put this information into the system?

WILLIAMS: Prescribing it would have been the SHO.

MYERS: So she will have entered that?

WILLIAMS: Entered it, and I would have countersigned to say that we'd given it.

MYERS: Right. Thank you. Where do you get the time 03.00 from when you put the information in?

WILLIAMS: Well, that would be when we did it. We would obviously document to say -- if that's the time we gave it we would have said "administered at 03.00".

MYERS: So that isn't a guess in other words or something like that?

WILLIAMS: No, but it may not be to the minute.

MYERS: To the minute. But at or about 03.00, something like that?

WILLIAMS: Yes.

MYERS: Thank you. The next item is another medication. Some questions about the morphine. So for the time being, we can close the white file, we might go back to it. In fact, it might be helpful to keep it because I'm going to ask you about the stock book first. So can we put up on the screens tile 84 and, ladies and gentlemen, in the folders this is behind 6G. So we've got it in both forms.

You were asked some questions about where this stock was or, rather, where it was taken to, things like that.

Do you actually have any recollection as to where the stock book was filled in --

WILLIAMS: No.

MYERS: -- at the time?

WILLIAMS: No.

MYERS: So that's all just questions -- what could have been the case, but you can't remember exactly where it was, going back 8 years?

WILLIAMS: No, I can't remember.

MYERS: First of all, where the book was located, we looked on the plan, and we saw the large room marked "sterile store", just below and across from the nursing station.

WILLIAMS: Right.

MYERS: I'm going to put up a photograph if it assists and it's J160. In fact, can we put up J161 first, please? Pause there, thank you.

First of all, is that the fridge that you were telling us about?

WILLIAMS: Yes.

MYERS: It may help, ladies and gentlemen, as we look at this, if we have open the plan behind divider 4 in paper so we can keep this up on the screens. If we open up divider 4 and go to page 2. If do you that as well as, Ms Williams, that might help. There we are.

So if we look at the screen and if we look at the plan, we've got both things. Is this photo taken by someone standing in the room marked "sterile store", looking up the plan, past the fridge towards the nursing station?

WILLIAMS: Yes. Sorry, I've never had it called as a sterile store. That's what I'm finding difficult. That's not something I knew it as.

MYERS: What did you know it as?

WILLIAMS: A number of things: equipment room, storeroom. And obviously it's not there now, so yes...

MYERS: The one on the plan that's marked "sterile store" is where the fridge was?

WILLIAMS: Okay.

MYERS: And that's what we're looking at in the photograph, isn't it?

WILLIAMS: Yes, that's where the fridge was, yes.

MYERS: And that's the fridge where the morphine was kept?

WILLIAMS: The locked fridge, yes.

MYERS: The locked fridge. We can actually see, can't we, if we look past the fridge door, out of the door, we can see towards where the nursing station is, can't we --

WILLIAMS: Yes.

MYERS: -- and one of the screens on the nursing station?

WILLIAMS: Yes.

MYERS: So that's the set-up.

You told us, if I recall, that the book in which the drugs are recorded was kept on top of the fridge.

WILLIAMS: Yes, you can see in the --

MYERS: Yes. Is that it above the whatever the word in blue is --

WILLIAMS: You can see the spine, the spine of it. A black spine.

MYERS: The black spine. Let's just make sure everyone can see what you're talking about. On top of the fridge there's a kind of blue band on the surface at the top of the fridge, isn't there, with some writing on it?

WILLIAMS: Yes.

MYERS: There we are. There's a box. In fact, the cursor, is that just on the spine of the control book?

WILLIAMS: Yes.

MYERS: Right. We can take the photo down, thank you.

Therefore we know that what we looked at behind divider 6G was kept in that position.

If we put up tile 84 again, please. That was the stock book. What does the time 03.30 tell us when we look at that first 03.30, where it says "FI [Surname of Baby K] 1x50", to the best of your recollection Nurse Williams, what is that telling us? What is it recording?

WILLIAMS: That I have taken a syringe out of the fridge.

MYERS: Yes. And there's a time given for that?

WILLIAMS: Yes.

MYERS: So it's at or about 03.30?

WILLIAMS: Approximately.

MYERS: Approximately, yes. I've got that, approximately.

As a general rule, when you take the morphine out of the fridge, is it used straight like that into the baby, straight out of the fridge into the baby?

WILLIAMS: Ideally not --

MYERS: No.

WILLIAMS: -- because it's cold.

MYERS: It's cold. So in the normal course of events what happens before it's used?

WILLIAMS: It's very different in each event because they're all individual. But ideally, we would like there to be a period of time that it's warmed up because it's going straight into the baby's vein.

MYERS: Yes. We're going to have a look at some of the timings in a moment that we've been looking at already. But do your notes nearer the time assist you in recalling you went to see the family at about 3.30?

WILLIAMS: Yes.

MYERS: So we will come to timings, but is it possible for instance therefore that morphine has been taken, and then whilst it warms and prior to preparation, you see the family, to then come back and for the morphine to then be administered?

WILLIAMS: It's not unrealistic.

MYERS: Yes. In terms of seeing the family, your recollection nearer the time was that you went to see them round about 3.30?

WILLIAMS: That's correct.

MYERS: And when you go to see them, there are a number of things that you would have spoken about with them, aren't there, with the family in this situation?

WILLIAMS: Yes.

MYERS: I think how the baby was?

WILLIAMS: Yes.

MYERS: Is she stable? Arrangements for transportation?

WILLIAMS: Yes.

MYERS: Because part of your role -- you said your focus and your concern is the baby and the parents, isn't it?

WILLIAMS: Yes.

MYERS: Because the way that the nursing works it's the unit, the family unit, that you're caring for?

WILLIAMS: Yes.

MYERS: And parents in the position of [Parents of Baby K] will naturally, in your experience, be concerned to have the detail of what is happening as much as you can give it?

WILLIAMS: Yes.

MYERS: You were asked about the question of the treasure box.

Could you just explain to the jury what that means, what a treasure box is?

WILLIAMS: A treasure box is something that's not only ourselves at Chester adopted, it can be other units as well, but this is about memory-making. It's recognising that preterm babies or sick infants have got a journey, so it's making sure that we mark them.

MYERS: Is it something that's given to the parents after the birth of the baby?

WILLIAMS: At some point, yes.

MYERS: And then you explain to them what it's for when you do that?

WILLIAMS: Yes.

MYERS: And you were asked about can you say when that was that you gave it to them?

WILLIAMS: I've documented to say that I have given it to them, but that could have been either on labour ward, while visiting them, or when they've been present on the unit.

MYERS: So it's something that could have happened when you went to see them at about 3.30 or it could have happened later on?

WILLIAMS: Yes.

MYERS: In terms of going to see the parents, I'm going to ask if you can look at an entry in a statement that you made fairly recently, Nurse Williams, on 17 April 2024. To assist, it's not critical, it's to assist on the issue.

It should come up on your screen and his Lordship's screen and the lawyers' screens because it's just to assist you in your recollection. It's page 5976 of the statements.

I'm just going to assist with this. This comes from a statement that you made on 17 April 2024, so only a couple of months ago.

WILLIAMS: Okay.

MYERS: I appreciate we've been talking about events going back about 8 years. But do you recall probably a police officer came along and took a statement, looking again at some of the timings in the case. Do you remember that?

WILLIAMS: Yes.

MYERS: One of the issues was that it was explained to you that the door swipe data showed that you had come back into the unit at 3.47.

WILLIAMS: Yes.

MYERS: I think originally -- and at the time of the last trial it had been understood it indicated you had left the unit at 3.47.

WILLIAMS: That's correct.

MYERS: And that made it a bit difficult because your recollection was you had left at 3.30.

WILLIAMS: That's right.

MYERS: But in fact some work between then and now has established it's 3.47 that you came back, not when you left. Then, assisted with that and the notes you'd made at the time, I'm just going to ask you if you read to yourself the paragraph that begins "According to my nursing notes". So it's the second paragraph down, just to refresh what you said about that.

(Pause)

WILLIAMS: Okay.

MYERS: Thank you. Given your initial notes and recollection that you had left at 3.30, and given what was then explained to you about the swipe data showing it was 3.47 that you came back on, not that you'd left, did that leave you with the impression that would have been about 20 minutes that you'd been away?

WILLIAMS: Yes.

MYERS: And that accords with your rough recollection of the situation?

WILLIAMS: I don't remember the specific time I was gone.

MYERS: But what you saw about the swipe data and 3.30 when you were leaving, that fits with the picture?

WILLIAMS: According to my clinical note writing that I left at approximately 3.30, yes.

MYERS: Thank you. As I said, it's difficult to be more precise beyond what the data says and what the information is that you made at the time, so thank you.

Can we go then next, please, to tile 86.

I appreciate we've got to the point when you go to see the family, but I'm still looking at things round about 03.30.

Tile 86, the intensive care chart. Again, ladies and gentlemen, for anyone following it in paper, it's behind divider 6E. We've got it on screen and in paper.

Can we go into the tile, please, Mr Murphy?

If we look at the right-hand side of the chart first, please, where we've got the timings, and we can scroll up so we can see towards the top. There we are, thank you very much.

We can see when we look down the left-hand side there, the timings at 03.30, 04.30, 05.30, 06.30.

WILLIAMS: That's correct.

MYERS: Those aren't put in because they reflect the specific times when things are done, are they?

WILLIAMS: No, and this is what I said before, that instead of being on -- and some charts will say 03.00. Obviously I've been documenting things on the half hour.

MYERS: Yes, that's right. Some things could be on a half hour as much as the hour?

WILLIAMS: They could -- I would have said if it was nearer 3, I would have put 03.00. But the reality is that could be 03.25.

MYERS: Yes.

WILLIAMS: That could be 03.35.

MYERS: So we've effectively got brackets of time within which things are happening?

WILLIAMS: And it prompts you -- if you have a number of babies that you're looking after and you're doing observations hourly, feeds hourly, they all correlate to either you organising yourself to say that they're due at 12 o'clock, half 12, 1 o'clock and so forth.

MYERS: Thank you. If we go across to the left-hand side, please. In fact, pause there for a moment. From what you've said is that why, when we looked at 4.30 on the right, and I am sorry to go back to the right but we can see it, is that why when you were asked about that reading of 0.35 for morphine, in reality we can't say that's a precise reading at exactly 04.30? The reading may be precise but the 04.30 -- it doesn't follow it's at that time?

WILLIAMS: Correct.

MYERS: Yes. Because it's within a period of time that the observations are being conducted?

WILLIAMS: Correct.

MYERS: If we go across to the left-hand side, as we were about to, and just look in the 03.30 column and look at the note at the foot of that, so go down the column. You've explained that the note there, although your signature is at the foot of the column, it's not your writing in the "major events" line; is that correct?

WILLIAMS: Correct, which is not uncommon.

MYERS: No, it it's not uncommon. If we look at that and perhaps turn it round to assist, can you help us with what it says in that?

WILLIAMS: "03.50: 100 micrograms per kilo of morphine."

MYERS: This is a chart that, although you didn't fill that in, you were going back to and filling other details in as you went along during the evening?

WILLIAMS: Before -- yes, continuously, yes.

MYERS: As the evening went along?

WILLIAMS: Yes.

MYERS: So you can see what's written there in fact if you choose to do so, can't you?

WILLIAMS: Yes.

MYERS: Thank you. I'm going to ask if we can take that down, please, and ask if we could just look next at another prescription for -- and this is at tile 102. So we go into that. Again, Ms Williams, and members of the jury, we have this behind divider 6A. If anyone wants to see it in paper it has the red number 17059 in the bottom right-hand corner.

Again this is a document we've seen before. I'm going to ask Mr Murphy to scroll down the chart. It relates to the morphine sulphate. Does this assist in giving a time at which this was administered, and if so, can you tell us what you're looking at?

WILLIAMS: This is a bolus --

MYERS: All right.

WILLIAMS: -- so this isn't a continuous infusion.

MYERS: So this is a bolus --

WILLIAMS: They're two separate things.

MYERS: Right, we'll deal with infusion in a moment then. So this is for a bolus. Does it help us, so far as this is concerned, with the time when that bolus was administered?

WILLIAMS: It correlates with the major events.

MYERS: The major events, which is 03.50?

WILLIAMS: 03.50.

MYERS: So that's a bolus given at 03.50.

So far as infusion is concerned I'm going to ask if we could look at exhibit T104, please. Can we go into that, please, the paperwork? Perhaps look at the screen. It's easy enough to see on the screen, Ms Williams. Can you see it clearly there?

WILLIAMS: Yes.

MYERS: If you are looking for it in paper, we can assist, we have it. It's behind divider 6C and it's got in very large red numbers 17074. Are you familiar with paperwork of this type?

WILLIAMS: Yes.

MYERS: Does this -- this relates to morphine sulphate, doesn't it?

WILLIAMS: Yes.

MYERS: I'm just going straight to -- we see the rate actually.

If we look across from where it says "morphine sulphate", does it actually give a starting rate for the morphine sulphate? You may need to look from the box that says "morphine sulphate" -- about five boxes to the right.

WILLIAMS: Yes, so "Starting rate 0.3".

MYERS: 0.3. Or is it 0.34 possibly?

WILLIAMS: 0.34ml.

MYERS: Does it help us, first of all, with the time at which this is to be started if we look at the administration details?

WILLIAMS: 03.50.

MYERS: And there the rate is in at 0.34; is that correct?

WILLIAMS: Millilitres an hour, yes.

MYERS: There's a doctor's signature, I don't know if you're familiar with that, don't guess if you're not.

WILLIAMS: No.

MYERS: And then there's -- whose signatures are under the nurse signature?

WILLIAMS: Myself and Lucy's.

MYERS: You've explained that it would be anticipated that morphine would be required at some point with an intubation; is that right?

WILLIAMS: Yes -- well, they are being ventilated.

MYERS: Being ventilated, yes, of course, with the ventilation.

I think you explained earlier that means you may have got morphine from the fridge, having been asked to or in anticipation of being asked to use it; is that correct?

WILLIAMS: Because [Baby K] was already intubated, so then the prediction would be to then start a morphine infusion once IV access is obtained.

MYERS: The actual detail of starting it and how it's to be dealt with, is that set out in the infusion prescription, what it's to be and the rate?

WILLIAMS: For what the infusion should be running at, which is 20 micrograms per kilogram.

MYERS: At that point 0.34 --

WILLIAMS: Millilitres an hour.

MYERS: And the starting point for that is the prescription that's written that we have here as to what to give and when to give it?

WILLIAMS: What to give, yes.

MYERS: What's the relevance of "time started", by the way, where we see that?

WILLIAMS: Because we try to keep obviously, as much as we can, accurate records to when we are commencing something and finishing something because it also says "time finished".

MYERS: So the time started for this, so far as the records at the time are concerned, is 03.50?

WILLIAMS: Yes.

MYERS: All right, thank you. We can take that down, Mr Murphy.

I'm just going to ask you something different now and I'm explaining it to assist you to know what I'm asking about exactly. It's about the tubes that a preterm baby is fitted with. In your experience tubes can slip or move; that's possible, isn't it?

WILLIAMS: Yes.

MYERS: And babies are capable of dislodging tubes -- we know you secure them, but a baby can dislodge a tube; do you agree?

WILLIAMS: Certain babies, yes.

MYERS: If they're active, can they dislodge them?

WILLIAMS: Yes.

MYERS: It's not unusual for a preterm baby to be active; would you agree?

WILLIAMS: I don't believe I have enough experience with 25-week babies --

MR JUSTICE GOSS: Well, yes. It was put as preterm babies; that's before 37 weeks.

WILLIAMS: Yes. Babies can be active.

MR MYERS: Yes. Well, your recollection certainly initially, [Baby K] was active, wasn't she? That gets to the point, really: she can be active?

WILLIAMS: Yes.

MYERS: And an active baby is capable of dislodging a tube?

WILLIAMS: It can happen.

MYERS: I want to ask you about what happened then when you came back from seeing the family as much as you can help us.

Your recollection, Nurse Williams, is that when you came back, which is round about 03.47 or at 03.47 from the door data, an alarm or alarms were sounding. That's what you remember?

WILLIAMS: That's what I've written in my statement, yes.

MYERS: That's what you wrote in your statement.

I'm going to go to other parts of the description.

You remember Dr Jayaram being present in or about the area when you returned, don't you?

WILLIAMS: Yes.

MYERS: And he was saying things like, "What's happened? How's this happened?"

WILLIAMS: Yes.

MYERS: If there's any mystery, again, you made a statement on 10 April 2018, so a lot nearer the time than now.

WILLIAMS: And I remember him asking me that.

MYERS: "What's happened? How's this happened?"

And in fact you said, "I don't know, I wasn't here, I was with the parents".

WILLIAMS: Yes.

MYERS: And he was also asking you who was in the room at the time the alarms went off. That's something he asked.

If it assists --

WILLIAMS: Yes.

MYERS: (Overspeaking) he did, yes. You remember him asking you who was in the room at the time the alarms went off?

WILLIAMS: Yes.

MR MYERS: Thank you for dealing with those questions, Nurse Williams. Thank you, my Lord.

Re-examination by MR JOHNSON

MR JOHNSON: Just one point, please. Maybe two. Can we go back to 6E, please? Tile 86.

If we concentrate on the right-hand side of the page, please, on the intensive care chart, we know, because you were shown the prescriptions, that the rate of administration for dextrose was 1.7ml per hour.

That is actually recorded on that form, isn't it?

WILLIAMS: I haven't seen a prescription for that, the dextrose.

JOHNSON: Well, we've got it. But don't worry about --

WILLIAMS: Yes, the millilitres an hour is 1.7.

JOHNSON: And that's taken from the prescription, isn't it?

WILLIAMS: It would have been working out 60ml per kilo, yes, would give you an hourly rate of 1.7ml.

JOHNSON: Yes, exactly. If you want to see the prescription, as you've raised it, it's behind 6C, it's the first document. Do you see it at the top there?

WILLIAMS: Yes.

JOHNSON: That's where the 1.7 comes from. Do these pumps run accurately, are they calibrated so that they do actually run accurately, they administer what you set them to administer?

WILLIAMS: You programme the hourly amount that you want and usually put in a six-hourly amount.

JOHNSON: Yes. So if we look on 6E, please, where we were before, we can see that there is a running total in the fourth column, isn't there? Do you see that?

WILLIAMS: Yes.

JOHNSON: And if the readings were being taken by you at precisely on the half hour, the difference between each running total as time progressed would be 1.7ml, wouldn't it?

WILLIAMS: If it was on the...

JOHNSON: Exactly.

WILLIAMS: And also you have to factor in that cannulas, they don't always run, if there are kinks, then that could be...

JOHNSON: Yes. So for example, between 03.30 and 04.30, or those times that you've recorded, as a matter of fact 2.3ml have run.

WILLIAMS: 2.8.

JOHNSON: No, I'm taking off the 0.5 at 03.30.

WILLIAMS: Okay.

JOHNSON: These pumps keep a -- calibrate the running total, do they?

WILLIAMS: Yes. You've got a volume to be infused, your millilitres an hour and then the total volume of what's come through.

JOHNSON: So we can work out actually, although it doesn't tell us what the time actually was, we can work out how long between each of these readings being taken it was if we take the hourly rate and look at the running total?

WILLIAMS: If you have secure IV access then, yes. In an ideal world that would be the case but obviously if cannulas -- if you were to give antibiotics, if you were to disrupt that fluid at any point of time --

JOHNSON: Absolutely, absolutely. So that's a clue, it doesn't give you an absolute answer, but it gives you a clue as to the time between taking the actual readings, doesn't it?

A suggestion was made to you, the proposition that you were out of the room for 20 minutes, do you remember that, between coming back in at 03.47 and leaving at 03.30?

WILLIAMS: Yes.

JOHNSON: And you said that you were relying on the time of 03.30 in your notes as being correct to come --

WILLIAMS: I say approximately, don't I?

JOHNSON: Well, quite, absolutely. It could have been significantly less than that, couldn't it?

WILLIAMS: Less time?

JOHNSON: Yes.

WILLIAMS: It's difficult -- only (inaudible) that I can say from my notes that I documented.

JOHNSON: Of course, absolutely. That's one of the reasons I went through what you document as having done by 03.30; do you understand?

WILLIAMS: Yes.

MR JOHNSON: Does your Lordship have any questions?

Questions from THE JUDGE

MR JUSTICE GOSS: Just only this: when you were asked about active babies dislodging tubes you said in relation to a baby of 25 weeks you didn't feel qualified to answer whether a baby of that gestation could dislodge a tube.

WILLIAMS: But I said from my statement that [Baby K] was active, but as a general -- I thought you meant directed at a baby of 25 weeks.

MR JUSTICE GOSS: Exactly, yes. That's what we want because we know this was a 25-week baby. How much experience do you have of 25-week --

WILLIAMS: At that time, not very much.

MR JUSTICE GOSS: Not very much. All right.

MR JOHNSON: I think we will have to have a short break.

MR JUSTICE GOSS: Yes. This isn't a ten-minute break, this is just a short break so that we can reconfigure the court. So this is, I hope, no more than 5 minutes as far as you're concerned.

(Pause)

I'm sorry, it may take more like 10 minutes, I'm told.

(In the absence of the jury)

I should have thanked you for coming to give your evidence. It is complete now. You know the procedure.

That's it.

(12.30 pm)

(A short break)

(12.40 pm)

(In the presence of the jury)

[NURSE B] (sworn)

Examination-in-chief by MR DRIVER

MR DRIVER: Could you state your full name, please?

NURSE B: [Nurse B].

DRIVER: [Nurse B], you've been invited here today to give evidence about the nursing cares given to baby [Baby K] on 17 February 2016.

NURSE B: Yes.

DRIVER: And you made a witness statement about some of the events of that day and your witness statement is dated 1 June 2018.

Have you had the opportunity to refresh your memory from the content of that witness statement?

NURSE B: Yes, I have.

DRIVER: Independent of that statement do you have a memory of some of the events of 17 February 2016?

NURSE B: Some of the events, yes.

DRIVER: Were you working a day shift at the neonatal unit at the Countess of Chester Hospital that morning?

NURSE B: Yes.

DRIVER: What was your role?

NURSE B: I was the shift leader.

DRIVER: What time does the day shift formally begin?

NURSE B: 7.30 am.

DRIVER: And what was your practice in terms of time of arrival at the unit when you were acting as shift leader?

NURSE B: Ideally arrive 5 to 10 minutes prior to the shift.

DRIVER: And what is the first duty for a shift leader upon arrival within the unit?

NURSE B: At that time everyone kind of gathered around the nurses' station, so you were kind of present, ready to begin the handover.

DRIVER: Thank you. There's a while file in front of you there.

If you could turn behind divider 4 in the first instance. Go to the second page, turn over one page.

I'm grateful. You'll see a close-up plan, enlarged plan I should say, of the neonatal unit. Could you assist the jury as to where that gathering of nurses took place?

NURSE B: Where it says "nurses' station".

DRIVER: So in the centre of the plan?

NURSE B: In the centre, yes.

DRIVER: If you turn over the divider you'll see a page that contains six photographs. Do any of those photographs -- I'll direct you to the bottom and left corner: is that the nursing station?

NURSE B: Yes, on the right-hand side of the photo.

DRIVER: So there would be a gathering or, could I use the word, huddle of nurses?

NURSE B: Yes.

DRIVER: Is that a phrase that you use?

NURSE B: Uh-huh.

DRIVER: And that's an informal huddle prior to the formality of handing over -- the exchange of information and handing over of responsibility for the babies?

NURSE B: Yes.

DRIVER: Do you recall going to that place for that purpose at about 07.25 on the morning of 17 February?

NURSE B: Yes, I do.

DRIVER: What is your next memory of events that morning?

NURSE B: I hear Lucy Letby shout for help from nursery 1 and I followed Joanne Williams and Dr Jayaram into nursery 1. Melanie Taylor was also at the huddle with me, who was also coming on to

the day shift, and so Jo and Dr Jayaram were walking ahead of us and we all walked into nursery 1 through the right-hand door.

DRIVER: Where were Nurse Joanne Williams and Dr Jayaram walking from?

NURSE B: I don't remember.

DRIVER: But you do recall seeing them enter nursery 1?

NURSE B: I do.

DRIVER: Am I right to infer, a stride or two ahead of you?

NURSE B: I don't know.

DRIVER: What did you see when you entered nursery 1?

NURSE B: Lucy had her hands in the incubator with [Baby K], so the incubator on the right-hand side of nursery 1, and she appeared to be Neopuffing [Baby K] via an ET tube.

DRIVER: Thank you. Did you go to the incubator yourself?

NURSE B: I stayed more in the doorway because I hadn't had a handover at this stage, I didn't know the baby at all, and I knew that Lucy, Jo and Dr Jayaram had been on the night shift.

DRIVER: And did you observe their response to Lucy Letby's call for help?

NURSE B: Yes. They went straight over to the incubator and they did a kind of -- the normal checks and they acknowledged that the tube had moved, it had gone further into the baby than it should have done, and they withdrew it to what it should have been.

DRIVER: Did you observe anything else at that stage?

NURSE B: Not that I recall.

DRIVER: Did there come a time soon after when responsibility for the cares for [Baby K] were transferred to your shift?

NURSE B: Yes. The situation -- I guess, the event ended, [Baby K] was placed back on the ventilator, and then handover began shortly after that. I wouldn't normally, as the shift leader, have stayed with Mel, as her designated nurse, to have that full handover, but I kind of got the impression I knew at that point now [Baby K]'s gestation, I saw kind of how many medicines she was requiring, how much ventilation she was requiring. So I

stayed for the handover with Mel because I kind of pre-empted, I guess, that I would have been Mel's -- almost like two nurses caring for [Baby K] during that day.

DRIVER: Thank you. Let's just break that down into parts, if I may. Mel being Melanie Taylor?

NURSE B: Yes.

DRIVER: So she became the designated nurse for [Baby K] on the day shift?

NURSE B: On the day shift, yes.

DRIVER: Is it right to take that whilst -- ordinarily cares for a baby in nursery 1 would be on a one-to-one basis, one nurse per baby?

NURSE B: Not necessarily just because of the designation of the nursery, but because [Baby K] was on a ventilator, that made her one-to-one, yes.

DRIVER: Because of the global clinical picture, you exercised your nursing judgement to lend support to Melanie Taylor throughout --

NURSE B: Yes.

DRIVER: -- because of [Baby K]'s needs?

NURSE B: Yes.

DRIVER: Did that involve direct cares and some of the associated administrative responsibilities?

NURSE B: From my memory, I can remember drawing up the medications with Melanie and doing some documentation and preparing the paperwork ready for transfer.

DRIVER: We're not going to go to all the raw material, all the notes, but with Mr Murphy's help we'll just focus upon some of the contribution you made. Tile 188, please, Mr Murphy.

We'll look at this one, but from here on in we'll stay with tiles. So that's at 08.10, if we go back, please, and then tile 191. It records you undertaking observations of [Baby K]'s vital signs. Do you remember doing that?

NURSE B: Sorry, it's not opened on this screen.

DRIVER: That's my fault. Open it up for the witness, please, Mr Murphy.

Go down to the bottom for [Nurse B] and her initials.

NURSE B: Yes, that's my initials, [redacted], and that's my writing.

DRIVER: Thank you. Just the one set of observations, the 08.30 observations?

NURSE B: 08.30. Mel may still have been receiving some handover or drawing up a medication. I don't know what Mel was doing but I've assisted her in taking up the observations at 08.30.

DRIVER: Thank you. 192, please, Mr Murphy.

We see your initials on the right column, furthest right, [Initials of Nurse B]?

NURSE B: Yes, 08.30. So that's still completing observations.

That's the check of the recording of the IV infusions that [Baby K] was receiving at 08.30.

DRIVER: Thank you. The other side of the same page, please.

Again, a corresponding contribution?

NURSE B: Yes, they're the ventilator checks for 08.30.

DRIVER: Thank you. Tile 193, please. We don't need to go behind these now, Mr Murphy. 193, the equipment settings, intensive care chart. We see your name at 194, tile 204, 214. If we click on to these nursing notes, please, Mr Murphy.

I can see MT. I'm not sure I can see your initials there.

NURSE B: That's Melanie.

DRIVER: I don't think you appear to make a contribution to these, notwithstanding the tile information.

215. 216. 232. We're now at 10.50 that morning.

233. 234. 254. 259. 260. 261. 270. 271. If we can focus on the medication given at or recorded at 271, that's pancuronium. Could you explain to the jury what that is for?

NURSE B: So this is a medication that isn't used frequently at Chester. It's a medication normally asked for by the transport team ahead of transport and it would act almost --

DRIVER: Is it a profound relaxant?

NURSE B: Yes, a relaxant, a paralysing agent you could almost describe it as, but a relaxant would be a good way to describe it. It could be used because the baby is active, it could be used to try and help the baby synchronise -- if a baby was breathing a lot, help the baby synchronise with the ventilator. So I don't recall the reason that they asked for the medication, but I do remember drawing that up with Mel on that day.

DRIVER: And that would have been -- now we're at 12.30 that afternoon. That would have been at the behest, at the direction of the transport team?

NURSE B: Yes.

DRIVER: Thank you. Did you work in cooperation with your colleague, the registrar, [Dr A]?

NURSE B: Yes.

DRIVER: Who was hands on, on behalf of Chester, at the direction of the transport team?

NURSE B: Yes.

MR DRIVER: Is that a fair description? Thank you.

Could you remain there and answer any questions, please?

MR MYERS: My Lord, we have no questions.

MR JUSTICE GOSS: Right, thank you very much.

We will break off at that point. That completes your evidence, [Nurse B]. Thank you very much for coming and giving it today. Just stay where you are for the moment, please.

We'll break off now, members of the jury. Could you be ready, please, to continue at 2.05 in your seats? As far as estimated length of the remainder of the hearing for today...?

MR DRIVER: At least an hour, but it may not be the full afternoon.

MR JUSTICE GOSS: So there you are.

(12.56 pm)

(The short adjournment)

(2.05 pm)

MR JOHNSON: Could I recall Kate Tyndall, please? Can I ask the jury to get out the black file with the neonatal review on it, please. You won't get much help from the iPads for this bit.

MRS KATE TYNDALL (recalled)

Examination-in-chief by MR JOHNSON

MR JOHNSON: Welcome back, Mrs Tyndall. You're still under oath.

A while ago now, you introduced us to the sequence of events and to the neonatal review.

TYNDALL: Yes.

JOHNSON: I'd like to concentrate on the neonatal review. When you were being asked questions on behalf of Lucy Letby, your attention was directed to line 112 of the review; is that correct?

TYNDALL: Yes.

JOHNSON: It's page 5 of 10. The specific issue to which your and the jury's attention was directed was the fact that the child KC has an entry on his chart regarding a self-extubation. You may recall that the questioning then directed you to look at the nursing notes made for KC on this shift.

TYNDALL: Yes.

JOHNSON: And it was noted during the questioning that the self-extubation didn't appear in the nursing notes.

TYNDALL: Yes.

JOHNSON: Do you remember that?

TYNDALL: That's correct.

JOHNSON: Let's start with the documents if we can, please.

Starting with the charts for KC, which are on a sub-bundle that Mr Murphy has and will put on the screen at page 6.

This is an intensive care chart for KC; is that right?

TYNDALL: Yes.

JOHNSON: We can see this one is dated 16 February?

TYNDALL: Yes.

JOHNSON: And runs from 01.00 hours to 24.00 hours?

TYNDALL: Yes.

JOHNSON: There's reference to the snapping of a long line at the bottom?

TYNDALL: Yes.

JOHNSON: If we just let Mr Murphy scroll down:

"Long line snapped. Fluids [arrow] peripheral line. L foot."

Left foot?

TYNDALL: Yes.

JOHNSON: The next page in KC's records is what we have here.

Another 24-hour period, starting from 01.00 hours.

TYNDALL: Yes.

JOHNSON: And ending at 24.00 hours?

TYNDALL: Yes.

JOHNSON: Then the next page in the records, if we keep going to page 8 of this sub-bundle, is an intensive care chart that is dated 17 February 2016 and clearly covers the time that we are concerned with?

TYNDALL: Yes.

JOHNSON: Just going back to line 112 first of all, is that line correct in that it shows that at 03.20 on 17 February an entry was made on the chart regarding a self-extubation by KC?

TYNDALL: I believe that that entry actually relates to events on 16 February, not the 17th.

JOHNSON: Right. I would like you to explain to us your reasons for why, having reviewed this in the light of the questioning, you believe this event happened 24 hours earlier.

TYNDALL: So when you look at the chart on page 6 and follow -- which is dated the 17th and follow the initials through, you'll see the initials are CN followed by [Initials of Nurse B] and then CN.

JOHNSON: So this is dated the 16th?

TYNDALL: Yes.

JOHNSON: So we're looking at the right-hand column for the nurse's initials?

TYNDALL: Yes.

JOHNSON: CO is that?

TYNDALL: I think it's CO although it looks like a CN.

JOHNSON: [Initials of Nurse B]?

TYNDALL: Yes, [Initials of Nurse B] and then back to CO. When you look at the chart on the following page, which has no date on it, no date on the top of it, the initials also run in the same order, so CO through to [Initials of Nurse B] to CO.

JOHNSON: Yes.

TYNDALL: If you then look on the next page, page 8, you'll see that whilst the initials initially start off as CO into [Initials of Nurse B], at the very bottom they change to AD.

JOHNSON: Yes.

TYNDALL: When you review the nursing notes for baby KC --

JOHNSON: So there is an apparent disconnection in the nurses that are working at the same time --

TYNDALL: Yes.

JOHNSON: -- depending on whether the event that we've got in at line 112 happened at 03.20 in the morning on the 17th or the 16th?

TYNDALL: Yes.

JOHNSON: So that's the starting point, the comparison of those three documents. So that then sent you to the nursing note; is that right?

TYNDALL: Yes.

JOHNSON: And it was this nursing note that I think you were referred to in part at least during the course of your evidence.

TYNDALL: Yes.

JOHNSON: Let's find that then, please.

TYNDALL: So on page 5 is the nursing notes written by the designated nurse on 17/06.

JOHNSON: Let's take this slowly. So we see here that the time that the note is being written is 00.51; is that right?

TYNDALL: That's correct.

JOHNSON: Do we also see that it ends at 01.07?

TYNDALL: Yes.

JOHNSON: And that the author is CO?

TYNDALL: Yes.

JOHNSON: Let's take it slowly. Does it say:

"Written for care given at 08.00"?

TYNDALL: Yes, which presumably is supposed to be 20.00 for the night shift.

JOHNSON: Yes:

"Handover taken. Equipment, fluids and alarm limits checked and satisfactory."

Then the baby's name has been redacted?

TYNDALL: Yes.

JOHNSON: So this is KC?

TYNDALL: Yes.

JOHNSON: "Nursed on NCPAP in air."

TYNDALL: Yes.

JOHNSON: And:

"Incubator temperature reduced and fan commenced to cool environment with effect."

TYNDALL: Yes.

JOHNSON: And:

"All fluids changed as prescribed and commenced via new long line, right hand. VIP score 0."

TYNDALL: Yes.

JOHNSON: "Long line, right foot removed by Dr Smith."

TYNDALL: Yes.

JOHNSON: Who we know was on duty in the early hours of the 17th:

"Antibiotics as prescribed via peripheral line left foot. Long line pressures increasing and then occluding [query] positional. Site appears satisfactory. Cares attended to by SN Letby. Minimal clear NG aspirates. Abdomen soft, not distended. Then off NCPAP during cares for pressure relief. CBG taken and good. Remains self-ventilating in air at the time of report. [Name of child] bright and alert.

"At 0015 long line pressures observed to have dropped to 30s. Upon examination, bedding observed to be damp. Velcro dressing had lifted and long line snapped from cannula hub [query] cause. Dr Smith informed and has removed line fully intact. Tip not sent to lab."

So that's the entry. How does that help you?

TYNDALL: So on page 7, which is the intensive care chart that was used in the NNU -- I believe incorrectly during the NNU review --

JOHNSON: Hold on. We need to take this slowly.

On page 7, which is where you have got the entry at line 112 in the review. Yes.

TYNDALL: Yes. If you go to the column that's entitled "24", so that would be 00, midnight, of the 17th, there is an entry in the bottom corner that says:

"00 [I believe it says] 10. Long line snapped at hub, reviewed by Dr Smith."

Which tallies with the nursing note entry.

JOHNSON: And we know that the nursing note entry is automatically timestamped by the system?

TYNDALL: Yes. The reference to self-ventilating in air would suggest that the baby no longer needs the ventilatory support and therefore this section of the charts wouldn't have been completed --

JOHNSON: Yes.

TYNDALL: -- so there's not a corresponding chart.

JOHNSON: So we've seen it time and time again with the readings that are filled in and we were concentrating on it for [Baby K] with Nurse Williams this morning, on the left-hand side of the same page is one chart and on the right-hand side a different page?

TYNDALL: Yes.

JOHNSON: If a child isn't on a ventilator one of side of the page isn't being filled in --

TYNDALL: Yes.

JOHNSON: -- the left-hand side of the page as we're looking at it?

Just looking at this single page in isolation, if the timing of the nursing note that -- the automated timing of the nursing note that we've just looked at for the night shift of the 16th into the 17th is correct and this cannula snapped that night, then the self-extubation happened 22 or 21 hours prior to that?

TYNDALL: Yes.

JOHNSON: Yes. And that is the basis on which you now believe that the entry at line 112 should be 24 hours earlier?

TYNDALL: Yes.

JOHNSON: Thank you. That doesn't change the point about the, if there is a point to be made, about the extubation, it just means it didn't happen on this shift?

TYNDALL: No, and it's confirmed in the nursing notes that that extubation happened on the 16th into the 17th -- sorry, the 15th into the 16th.

JOHNSON: Yes, all right. So that's KC.

When you had realised that that mistake had been made, did you double-check every entry for KC?

TYNDALL: Yes.

JOHNSON: And did you conclude from that further check that there were three entries that should be in the NNU review that are not in the NNU review?

TYNDALL: Yes.

JOHNSON: All right. Let's deal with the times that these should be in because people may want to make a note. We can produce a document overnight, I'm sure by agreement, that will produce a list in typescript form to be given to the jury.

Should we start at page 3 of 10 of the NNU review?

TYNDALL: Yes.

JOHNSON: Thank you. At midnight, so somewhere around line 24 to line 29 mark?

TYNDALL: Yes.

JOHNSON: All right. So again we might want to write these on to the left-hand side of that page, which is the back of the previous page.

Are we dealing singly with the same baby, KC?

TYNDALL: Yes.

JOHNSON: And are we dealing with Caroline Oakley, who was baby KC's designated nurse?

TYNDALL: Yes.

JOHNSON: Thank you. As far as midnight is concerned, is there an entry that's missing therefore?

TYNDALL: Yes. Caroline Oakley has made an entry on the intensive care chart which should be in the schedule.

JOHNSON: At midnight?

TYNDALL: At midnight.

JOHNSON: Are the other two omitted entries at 01.00 hours?

TYNDALL: Yes.

JOHNSON: So the time covered by lines 44 through to 49 inclusive?

TYNDALL: Yes.

JOHNSON: What two entries are missing for KC for the 01.00 hours?

TYNDALL: Caroline Oakley has made an entry on the observation chart and also an entry on the intensive care chart.

JOHNSON: For KC?

TYNDALL: For KC.

JOHNSON: Sorry, I am repeating things over and over again, but it's just so there's no misunderstanding.

So there's three entries that should be in. Did you also, because you had mistakenly thought that one of the charts was for this shift rather than the previous shift, have you included entries in the NNU review for KC that shouldn't be in the NNU review?

TYNDALL: Yes. So there's a number of lines that have referred to entries on the intensive care chart in brackets, equipment settings, which would be detailing the ventilator settings. As we've discussed, these shouldn't have been in there and -- do you want me to read out which lines they are?

JOHNSON: Did these ones all happen 24 hours earlier as well?

TYNDALL: Yes.

JOHNSON: Okay. So the following lines, taking it very slowly so the jury can mark this up -- as I say, we'll give them a schedule with this on tomorrow or possibly early next week, but once we've agreed it.

59, is that a line that shouldn't be in?

TYNDALL: Yes.

MR JUSTICE GOSS: So really, 59 shouldn't be there, but it should have 16 February, not 17 February; is that right?

TYNDALL: No, because the NNU review is only for the period of midnight on the 17th through to 8 am.

MR JUSTICE GOSS: Yes, that's why.

TYNDALL: So Caroline Oakley has been taking measurements from baby KC on the hour throughout the shift. In the NNU review there would be two lines, one for the fluids and one -- and there has mistakenly been put in one for the ventilator settings. It's those ventilator settings that need removing, but she is still making observations on the babies.

MR JOHNSON: On the fluids?

TYNDALL: On the fluids for baby KC.

MR JUSTICE GOSS: So KC is not on a ventilator?

TYNDALL: Yes.

MR JOHNSON: Yes. So just looking at the practical effect of what you've just explained, if we look at lines 59 and 60 together: 60 is correct; 59 isn't correct because it was 24 hours earlier?

TYNDALL: Yes.

JOHNSON: Turning over the page to page 5, we have exactly the same position with lines 94 and 95. This time 94 is correct, but 95 is incorrect because it was 24 hours earlier?

TYNDALL: No, it's 96 is correct and 95 is not correct.

JOHNSON: Sorry, I beg your pardon.

TYNDALL: 94 is the observation chart.

JOHNSON: We then come to 112, which we've already dealt with.

TYNDALL: Yes.

JOHNSON: Over the page again, which is the next line that is incorrect?

TYNDALL: So it's line 139.

JOHNSON: So 140 stands?

TYNDALL: Yes.

JOHNSON: 139 was 24 hours earlier?

TYNDALL: Yes.

JOHNSON: The next line, please.

TYNDALL: So 171 was 24 hours earlier and 172 is correct.

JOHNSON: As is 170?

TYNDALL: As is 170, yes.

JOHNSON: Three entries for KC there at 5 o'clock. There should only be two. The one that shouldn't be there is 171?

TYNDALL: Yes.

JOHNSON: Turning over the page again, is there another example on the next page?

TYNDALL: Yes. So line 213 shouldn't be there and line 214 is correct.

JOHNSON: On the next page?

TYNDALL: So we have three entries for baby KC. Line 244 is correct, line 245 was 24 hours earlier, and line 246 is correct.

JOHNSON: So 245, a line through it. We see in each of these cases it's from the intensive care chart equipment settings?

TYNDALL: Yes.

JOHNSON: And that arises from because of what you have explained to us about the misunderstanding of the date of that chart and it is not on that chart in the position it appeared in the records?

TYNDALL: Yes.

JOHNSON: Finally for baby KC, do we come near the bottom of the page to line 276?

TYNDALL: Yes. So the same as the previous entries: line 275 for the observations stands; line 266 should be removed.

JOHNSON: 276.

TYNDALL: 276, sorry. And line 277 stands.

JOHNSON: That's correct, yes. So of those three, one is incorrect?

TYNDALL: Yes.

JOHNSON: Right. Can we turn next to the baby AR, please? Can you explain the position so far as AR is concerned?

TYNDALL: So baby AR -- can I ask Mr Murphy to --

JOHNSON: Yes, again if you direct Mr Murphy's attention. Is it page 13?

TYNDALL: Yes. Page 13 is a blood gas record for baby AR.

JOHNSON: This is probably a very good example of the difficulties that you faced in trying to decipher some of these records.

TYNDALL: Yes.

JOHNSON: So this is baby AR. We can see the date and times run in the left-hand two columns; is that right?

TYNDALL: Yes.

JOHNSON: And we see 15/02, 16/02, 17/02, then 18/02?

TYNDALL: Yes.

JOHNSON: I won't suggest what inferences people will draw from that, but you take us there where the mistakes -- is it transposing some of that data into the NNU review that has --

TYNDALL: Yes.

JOHNSON: -- that you now believe to have resulted in three errors?

TYNDALL: Yes. The entries that are timed at 02.14, 05.52 and 07.16 were all entered into the NNU review, believing that they were on the 17th. As you can see, there's the 17th, and it was just thought that they ran -- having looked at it more closely, I questioned whether actually they were for the 17th with the one that is dated the 17th being labelled at 08.11. When I've looked at baby AR's nursing notes, there are references on the 18th to those blood gas results.

JOHNSON: So these are the three results, 2.14, 5.42 or 5.52, and 7.16?

TYNDALL: Yes. Sorry, I think it's the entry, certainly the 05.52 and the 07.16 are explicitly mentioned within the nursing notes.

JOHNSON: Right. Let's identify the nursing note then, please.

TYNDALL: So the nursing notes are on page --

JOHNSON: 13, I think, is it? Sorry, no.

TYNDALL: Page 11. So on the top of page 11, where it says underneath where it says 18/02/16, 03.09, there is an entry that says:

"CBG [so capillary blood gases] completed at 05.42..."

and then those results tally with those written in the blood gas chart.

Then further down there's, I believe, another entry in the next column down, which -- yes. I can't quite see it for looking, but I believe it's in there.

JOHNSON: Yes. The other one is about midway down the entries:

"CBG completed. PB(?) 7.058, CO2 9.0, bicarb 14.5 and base excess minus 12.6."

TYNDALL: Yes, so again I believe those entries should not have been included in the NNU review.

JOHNSON: So just then going to the chart, if we go to line 69 first of all, which is at page 4. You put a line through 69?

TYNDALL: Yes.

JOHNSON: Then go to 198, which is page 7 of 10, a line through that?

TYNDALL: Yes.

JOHNSON: And line 252, which is the line immediately before final desaturation of [Baby K] that we heard about from [Nurse B] before the break, a line through 252?

TYNDALL: Yes.

MR JUSTICE GOSS: I think people are a bit behind you, Mr Johnson. Can we just go back to page 7 of 10, line 198?

MR JOHNSON: Then finally, page 8 of 10, line 252?

TYNDALL: Yes.

JOHNSON: So for the complete avoidance of doubt, hopefully, if we go back to page 4, there are two lines that should have a line through them. The first is line 59.

TYNDALL: Yes.

JOHNSON: The second is line 69?

TYNDALL: Yes.

JOHNSON: On page 5, a further two lines that should be taken out.

Line 95 --

TYNDALL: Yes.

JOHNSON: -- and line 112?

TYNDALL: Yes.

MR JUSTICE GOSS: You've got to speak up, they can't hear you. Did you get the first one? We're just checking through them now to make sure everyone's crossed through the right lines. Could you hear the beginning ones?

Right.

MR JOHNSON: Page 5, please, lines 95 and 112. Page 6, line 139 and line 171. Page 7, line 198 and 213.

Page 8, lines 245, 252, and 276. Does that complete the review of the review?

TYNDALL: Yes.

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

Cross-examination by MR MYERS

MR MYERS: Can I just check one thing? It's just so we can follow exactly what happened, my Lord.

MR JUSTICE GOSS: Of course.

MR MYERS: It may be apparent but I'd just like to make sure we follow this. This is not critical, you have dealt with thousands of lines of data in the course of these proceedings, so there's a lot to look at, but so the jury can follow why we're in this position and making these corrections now -- and we're not going to be looking at line after line of data, ladies and gentlemen -- all I ask is that we go to page 5 of 10, which is how this started, just so we can all understand why we've been making these changes.

We may all remember when you gave evidence earlier in the case I asked questions about line 112 --

TYNDALL: Mm-hm.

MYERS: -- which is the line which refers to baby KC self-extubating at 3.20 on, at that point, what we thought was 17 February.

So that everyone can follow, what happens is there was a bundle of documents for baby KC that you were working from and we're provided with?

TYNDALL: Yes.

MYERS: In that bundle somehow, nothing sinister, a page of readings for the 16th had ended up behind the 17th, in effect, so that as you were working through one led to the next and so you followed it through with entries for KC on this chart?

TYNDALL: Yes.

MYERS: That's right, isn't it?

TYNDALL: Yes, that's correct.

MYERS: As a result of the questions that I asked you, where I was pointing out some additional material with regard to baby KC, you went back just to check that what the records were and how you might have missed something that I pointed out in effect?

TYNDALL: Yes.

MYERS: And it was when you went back that you then identified that readings for the 16th in that bundle had ended up in a position which made it look like they were on the 17th?

TYNDALL: They were in the original medical notes in that order that we received from the Countess of Chester.

MYERS: Thank you for explaining that. So the bundle that you were working with had one page -- certainly that page out of order?

TYNDALL: I was working from the original medical notes provided by the Countess of Chester and the page we now know to be the 16th was sequentially after the page dated the 17th. So that is why that assumption was made because we were only looking at a

focused time frame. The bundle that you have received was an extract of the parts that were relevant for this documentation.

MYERS: No complaint about that at all. It's just so we can all understand, this is how the notes were received --

TYNDALL: Yes.

MYERS: -- so that it looked like readings that actually relate to the 16th came in after the 17th?

TYNDALL: Yes.

MYERS: So what you've done is gone back, for the KC readings that should have been the 16th, and made that apparent and you've identified also some issues with AR and blood gas?

TYNDALL: Yes.

MYERS: So that's why we are where we are with this. Just to be quite clear, so far as that line was concerned, line 112, it remains a fact that on 16 February, not the 17th, baby KC was in nursery 1, intensive care?

TYNDALL: Yes.

MYERS: And was SIMV, in other words on the ventilator, and in that situation on the 16th the record is that baby KC self-extubated?

TYNDALL: Yes.

MR MYERS: All right. I'm glad we could confirm that.

Thank you, my Lord. Thank you, Mrs Tyndall.

MR JOHNSON: I have no further questions. Thank you, my Lord. Does my Lord have any questions?

MR JUSTICE GOSS: No, I don't, thank you very much.

MR JOHNSON: Thank you, Mrs Tyndall.

(The witness withdrew)

Witness statement of MRS ANNE KEMBER (read)

MR DRIVER: My Lord, the next evidence to be provided to the jury will be in the form of reading of witness statements, the first of which is a statement by one Anne Kember which is at page 28

of the bundle that has been uploaded into the trial section of the digital case file, my Lord.

Could I ask Mr Murphy to put up tile 149 for context, please. Thank you.

Anne Kember made a statement dated 22 February 2024, which reads:

"I am a retired radiographer and I worked at the Countess of Chester Hospital until about 4 years ago when I retired. I was based in the main X-ray department at the hospital. My responsibilities varied depending on which area of work I was engaged in, but my overriding responsibility was to obtain the best images for each patient using the minimum radiation.

"We were based in the main hospital building and provided imaging services for the hospitals and GPs. X-rays were requested electronically via Meditech. The request was made by the doctor requiring the images and they would specify what area of the body they wanted imaging.

"This would print out in our department and was often followed up with a phone call, especially if the request was made overnight. Ideally, X-rays are performed in the X-ray department, but could be done using a mobile machine if the patient's condition meant that they were unable to be transported. Nearly all requests for X-rays from the NNU meant that we carried out the procedure on the NNU with a portable machine.

"I have been asked about a baby on the NNU called [Baby K] and two X-rays that were taken at 06.07 hours..."

And that's one Mr Murphy has just clicked on to there, and Mr Murphy, go to tile 184, please:

"... and secondly at 07.55 hours on 17 February 2016.

"I have no memory of [Baby K] or the above X-rays. I am told that the radiographs have the words 'portable' printed on them."

Maybe you could -- they're at 149, please, back to that one, Mr Murphy. If you could click on the radiograph itself. While that's being -- thank you.

She says:

"I am told that the radiographs have the word 'portable' printed on them. This means that the images were taken with a portable

machine and it is the case that we kept a portable X-ray machine on the maternity unit."

The jury will recall having a video presentation played to them and there was a demonstration of how that machine imaging was used.

If we go back to the tile, please, Mr Murphy:

"Although I have no memory of [Baby K] or the X-rays, I can state that I took the relevant images. To gain access to the NNU a swipe card is required and the system records the time of entry and the name of the staff member entering. There will have been only two members of staff on duty and I never lend my swipe card to anyone else. Any entry recorded under my name will have been me. I do not know who the person on duty that morning was.

"I have been shown a swipe data extract regarding [Baby K] which details my movements in and out of the NNU that morning."

If we scroll across to tiles 150 and 151, please.

Mrs Kember says:

"I entered the unit at 06.09 and then left shortly after, which is not recorded as egress is via a button and not a swipe. I entered again at 06.18 and entered one more time at 07.58."

That is on the carousel, but we'll look at that in due course:

"The timings on the radiographs do not appear to match these entry times. The printed times on the radiographs are [tile 149] at 06.07, two minutes before my first entry, and [tile 184] at 07.55, three minutes before my final entry. However, these ambiguities can be explained by an inaccurate clock on the radiograph machine. We never changed the time on the machine; I don't think any of us knew how to change it.

"To take the X-ray, I would enter the NNU with the mobile machine, I would speak to staff to let them know I was on the unit and to confirm that it was okay to continue with the X-ray. I would identify the patient, collimate and position a lead sheet if possible."

My Lord, I had to reach for my dictionary for collimate, which told me it is to set the alignment of rays of light. And when we watched the video presentation the narrator said he was lining up the X-rays, so that's what Mrs Kember means by that, I assume:

"It may be the case that the baby would require holding. Usually the image would be taken at the baby's cot. In 2016 images were digital so would have appeared immediately on the machine. The whole process does not take long. However, there are a lot of variables. A nurse could decide to put a line in or the baby may wriggle a lot, but if all went well I would expect the process to take 10 to 15 minutes. Having looked at the swipe data and the timings on the images, I would say that the images were taken over two visits to the unit."

Witness statement or MR SHAWN ANDERSON (read)

MR DRIVER: That statement should be read to a degree in conjunction with a statement by a Mr Shawn Anderson, which is at page 56 of the same bundle, dated 21 March 2024, which reads:

"I am the radiology manager at the Countess of Chester Hospital. I have been in this role since December 2022. I am responsible for the delivery of radiology services within the trust.

"We have several mobile X-ray machines throughout the hospital, as was the case in 2016. One of these was based within the maternity unit of the hospital. When an image is taken using the mobile machine, the date and time are stamped on to the image by the machine at the point of acquisition.

"It is the case that the date and time stamped on to the image cannot be guaranteed to be accurate as the date and time on the machines are not calibrated by the engineers as part of their routine servicing regime. This was the case in 2016 and remains the case today."

That's the statements in relation to radiographs, X-rays.

Mr Murphy, could you go to tile 218, please?

MR JUSTICE GOSS: If we can just sort of put that together in one piece to make sense of it, what the radiographer is saying is that the timer on the machine was not real time, you rely on the swipe data, and the swipe data indicated that the clock on the machine was running late, wasn't it? Anyway, the point is that you've got the entry time into the NNU and then you've got the time that we watched in the video that was played to prepare the taking of the photograph, making the X-ray on the machine, which obviously will be some time after the radiographer's got into there. So it's, I don't know, 5 or 10 minutes or so after the entry, which was 06.09, and some minutes after 07.58 for the second time.

Witness statement of [DR A] (read)

MR DRIVER: I'm grateful.

[Dr A] made a statement on 2 October 2008

(sic). If Mr Murphy could go to tile 218 and type on to the -- sorry, click on to the typed notes behind it.

[Dr A] said:

"I have been asked with reference to [Baby K] and in particular her care on 17 February 2016.

"I do not recall [Baby K] or her parents and it is likely that I never met them. I was working a day shift on Wednesday, 17 February 2016.

"At 09.55 hours on 17 February 2016, I have endorsed the clinical notes of [Baby K] with reference to a procedure I have completed. I have inserted an arterial line in the radial artery in [Baby K]'s right wrist, which I have connected to the arterial circuit for use in blood pressure monitoring and blood sampling in preparation for monitoring whilst on the neonatal unit and would likely be used following transfer.

"A very slow infusion of necrodised(?) saline was run to prevent blood clotting within the line. The line would stay in situ for long as it worked.

"I have recorded [Baby K]'s blood pressure, which was visible on the monitor when the pressure monitoring circuit was connected, which was 30/25 and the main arterial pressure was 27."

Witness statement MS CAROLINE OAKLEY (read)

MR DRIVER: The next statement is from Nurse Caroline Oakley who's been mentioned more than once in evidence already.

Her statement is dated 11 April 2018:

"I have been asked for my recollections of a baby by the name of [Baby K] who was born at 25 weeks' gestation on 17 February 2016 at 02.12 hours.

"She was admitted into the NNU at the Countess of Chester Hospital a short time later. I was working a night shift on the 16th into 17 February 2016 and was on duty in the NNU when [Baby K] was admitted.

"I can start by saying I have absolutely no memory of [Baby K] or that night shift. Anything that I am about to say is taken from the off duty roster and the nurses' notes on the Meditech

system, which I have had an opportunity to view, and not from my memory.

"On 16 February 2016 I started my shift at 7.30 pm and I was the shift leader. Joanne Williams was also on the night shift and she became the designated nurse for [Baby K] when [Baby K] was admitted to the unit. I know this because Joanne is the nurse who updated Meditech with [Baby K]'s care.

"Also on duty were Lucy Letby, Sophie Ellis and Val Thomas. The consultant was Dr Jayaram and Dr Smith was also on duty but I have no memory of him. I have no memory of how many babies were on the unit that night or where they were situated and Meditech does not record these details. [Baby K] would definitely have been in nursery 1 with Joanne, but I don't know if any other babies or members of staff were in there.

"I have not made any notes on Meditech in relation to [Baby K] because I was not caring for her, so I can only repeat what Joanne has written as I have no memory of [Baby K] or the shift.

"The notes state that [Baby K] was admitted at 02.40 hours in fair condition, intubated at 12 minutes of age, and was attached to the ventilator, which is all standard practice.

"The notes also query a dislodged ET tube and she was re-intubated by Dr Jayaram. She was screened for infection and given intravenous fluids as she couldn't feed herself. [Baby K] was also given morphine and antibiotics. The notes show that [Baby K] had two intubations due to apnoea and desaturation/colour loss.

"[Baby K] was then started on dopamine. The treatment chart shows that I signed with Joanne for a number of standard medications. I have no memory of the desaturation event at 02.50 hours so I cannot make any comment on it.

"I am told Joanne left the unit to update [Baby K]'s parents shortly before the event but again I have no memory of this so I don't know who was looking after [Baby K] in Joanne's absence.

"Regarding the ET tube which possibly dislodged whilst assisting [Baby K] with her breathing, I do not know the size the tube was, but from experience I would expect it to have been a size 2 or 2.5. I do know of incidents in the past where a tube has slipped but I don't know if this is what happened on this occasion. I also know of occasions in the past when we've been in receipt of faulty equipment, such as ET tubes, and we've had to send them back to the supplier, but I cannot say if any of the equipment used on this occasion was faulty."

Witness statement of MS MELANIE TAYLOR (read)

MR DRIVER: The next statement is from Nurse Melanie Taylor, dated 1 May 2018:

"I have been asked to comment on [Baby K] and her care on 17 February 2016. I recall [Baby K] as she was born at 25 weeks, which is very premature. She had been looked after by Joanne Williams since birth and I took over from Joanne for the day shift at 7.30 am. I had a verbal handover with Joanne in nursery 1 and then took over the care of [Baby K], assisted by [Nurse B].

"[Baby K] was being transferred into a specialist neonatal unit due to her prematurity. My role during her time in Chester was to stabilise [Baby K] and prepare her for transport. Shortly after taking over care of [Baby K], her ET tube had slipped, which caused her to have loss of colour with her heart rate and her saturations dropping. I can't recall exactly who adjusted the ET tube for [Baby K] but when this happened her saturations improved.

"During the morning I checked [Baby K]'s blood gases at 08.45, 09.44 and 11.13 hours and on each occasion the results were poor. The blood gases I took at 12.30 hours just before her transfer had improved.

"Throughout the morning [Baby K]'s ventilation requirements were increased as a result of poor blood gases and increased oxygen requirements. The transport team arrived mid-morning and worked alongside us to prepare and stabilise [Baby K] for transfer. At 08.30 hours [Baby K] was given a dopamine infusion at 10 micrograms per kilogram per minute to try and reverse her low blood pressure. However, this appeared to have no effect.

"Because there was no effect at 9.45 hours she was given a dobutamine infusion at 10 micrograms per kilogram per minute to again try and reverse her low blood pressure. At 10.50 hours both were increased to 20 micrograms per kilogram per minute.

"[Baby K]'s mean blood pressure was still too low, so she was prescribed hydrocortisone, which was administered by me through an intravenous bolus. I recall this helping her blood pressure improve.

"Curosurf is used to improve the compliance and oxygenation of the lungs. During my time with [Baby K] she was given two doses of Curosurf via her ET tube, although I did not give these to her. She was also given two saline boluses and a bicarbonate bolus.

"At 12.30 hours, prior to transfer, [Dr A] gave [Baby K] 100 micrograms per kilogram of pancuronium, which is a muscle relaxant, which had been requested by the transport team.

"I drew up an adrenaline infusion at a dose of 100 nanograms per kilogram per minute but did not give this to [Baby K]. This was given to the transport team should they need it during the journey.

"All medication was double-checked prior to being given to [Baby K]. The transport team began giving [Baby K] nitric oxide through her ventilation, which improved her blood gases prior to transport.

"At 12.40 hours the transport team took [Baby K] and transferred her to Arrowe Park Hospital. I had nothing further to do with [Baby K]'s care when she was transferred."

Witness statement MR STUART ECCLES (read)

MR DRIVER: The next statement is from a Mr Stuart Eccles, who is a clinical engineering manager. His statement is dated 10 July 2018. He states:

"The neonatal unit at the Countess of Chester Hospital uses two different types of monitors. Nurseries 1 and 2 use a Philips MP30 neonatal monitor whilst nurseries 3 and 4 use a Masimo Radical-7 monitor. The Radical-7 monitor is portable and can be used throughout the ward whilst the Philips MP30 is wall-mounted. I will talk about each monitor in turn.

"The Philips MP30 neonatal monitor. There are normally three to four monitors within nursery 1 and a further two monitors within nursery 2. The monitors in nursery 1 are generally on standby when not being used. This is to allow quick use of the monitor should a baby require it rather than waiting for the monitor to go through the ten to fifteen-second start-up process. The Philips MP30 neonatal monitors are standalone devices and are not networked in any way. They are capable of being networked but the Countess of Chester Hospital choose not to do this. They also do not go to a central monitoring system.

"The monitor allows trend data to be captured over a period of time but the Countess of Chester Trust utilises the nurses' observation charts over the trend data. In other words, the nurses will complete their observation charts from the data the monitor is providing and their observations of the patient.

"The monitor has a number of different options as to what can be monitored, such as arterial pressure, invasive and non-invasive,

temperature, saturation, ECG (electrical activity within the heart), pulse and respiration rates.

"The condition of the baby and what is needed to be observed will dictate what the machine will be asked to monitor. It could observe one or all of the above functions if required.

"The touchscreen display of the monitor then can be customised to show the readings for what you are monitoring rather than having a very busy screen with information that isn't required. Once the monitor starts being used without all of the observation leads plugged in, a visual prompt will appear in the top left corner of the screen, scrolling through a check of the monitor, updating the user of what is not attached.

"When the monitor is first turned on, it will automatically default to neonatal values, giving the user typical pre-programmed values of a neonatal baby. For example, a typical heart rate range of 110 to 165 beats per minute. Based on the care needs of that baby, the nurse or doctor can then adjust the range to be specific for the care of that baby.

"Monitors on the neonatal unit automatically default to neonatal settings which cannot be changed. Other monitors in use throughout the trust can be changed for the care of different patients, for example adults paediatrics or neonatal. Once the profile is selected, the monitor will automatically give the user the default settings for the patient type selected.

"Once ranges have been set, alarms can then be set. If the baby's monitor readings go outside the set range it will trigger an audible alarm prompting staff to attend to the baby. If the ranges were set to the extreme, for example lower rate 15 and upper rate 250 beats per minute, then the alarm would never sound despite the baby's heart dropping to dangerously low levels.

"The display on the Philips MP30 neonatal monitor is touchscreen. The display will show the actual reading from the patient along with the upper and lower limit set by the nurse or doctor. The monitor display screen will give the user visual prompts of medium and emergency alarms within coloured boxes at the top of the screen.

"It is possible to deactivate the alarms on the Philips MP30 neonatal monitor for 1 minute using the alarm pause button on the touchscreen. This will then give a visible countdown display at the top of the screen. Once the minute has expired the alarms will reactivate. If the user wants to further silence the alarms they can press the alarm pause button again, which will give a further 1 minute of alarm silence, but this can't happen until

the previous 1 minute has expired. If the user presses the pause alarm button again within the 1 minute time frame, the alarm will no longer be paused and will begin to sound.

"This will generally be used by staff who have responded to the alarm and wish to silence the alarm whilst dealing with the medical issue. It is possible to pause monitor alarms in anticipation if the treatment for the baby is likely to trigger the alarms. Again, this is only for 1 minute.

"It is possible to silence an alarm by using the 'silence alarm' button on the touchscreen display. The visual alarm indicators at the top of the screen will display despite the alarm being silenced. The neonatal configuration settings of the Philips MP30 monitor have 'alarm reminder' enabled, which means that the user will be reminded at regular intervals that the alarm has been silenced."

That concludes the relevant part of Mr Eccles' statement.

May we conclude, my Lord, by playing a video presentation of the incubator? I think from memory, it's under 10 minutes long.

MR JUSTICE GOSS: Yes, of course the jury will well remember having seen the alarm equipment that's just been described in the video recording. If they wish ever to see that again, it's available to be watched, that video.

MR DRIVER: I think it will be available on their iPads --

MR JUSTICE GOSS: Yes.

MR DRIVER: -- as with all the visual displays. This display is 7 minutes long.

MR JUSTICE GOSS: Thank you very much. We'll watch that then.

(Video played to the court)

MR DRIVER: My Lord, would that be a convenient moment to stop the presentation of evidence today? There's some work on some other material that we intend to present to the jury tomorrow morning that we could usefully take care of this afternoon.

MR JUSTICE GOSS: Yes, that's very sensible. We will break off now. Thank you. Your prediction was right.

MR DRIVER: Yes.

MR JUSTICE GOSS: So ladies and gentlemen, could you be ready, please, to continue at 10.30 tomorrow morning?

And remember your responsibilities: no communication by any means with anyone about anything to do with this case or anyone involved in the case and no research by any means about anything to do with the case. Thank you very much indeed.

10.30 tomorrow morning.

(In the absence of the jury)

Housekeeping

MR JUSTICE GOSS: Mr Myers.

MR MYERS: My Lord, may I raise one matter briefly before we conclude?

MR JUSTICE GOSS: Certainly.

MR MYERS: It's a matter I've brought to Mr Johnson's attention just before we came in at lunchtime and it's a matter that causes us some concern arising out of the questions of Nurse Williams in re-examination. I'm going to ask, if Mr Murphy's got the system, that he could put tile 86 up so I can remind your Lordship what we are dealing with. Tile 86 deals with the fluid balance chart. If we open that up, please.

We're just looking at the section on the right, Mr Murphy.

My Lord may recall in examination-in-chief looking principally at the reading of 0.35 for morphine at 04.30. The question from the prosecution to the witness in effect was: does this indicate how much will have flowed in that time given the rate it was prescribed at?

Your Lordship will see 0.35 under morphine for 04.30 and the prescription was something like 0.34.

The witness explained that it's not that precise, it's a bracket of time, and in cross-examination we confirmed that, that it's an approximation and that's as far as that went.

In re-examination, the witness was invited to embark on an exercise to assess the time that has passed by volume of the flow, in fact, of the dextrose, but we all know that application was to be related to morphine in due course, and the question that was put was:

"So can we work out actually, although it doesn't tell us, what the time actually was, and work out how long between each of

these readings being taken it was if we take the hourly rate and look at the running total?"

Pausing there, in fact what the witness was being invited to do on the hoof, so to speak, and outside any evidence to this effect in preparation for this, was to perform a type of back calculation here to establish the time at which this began, which is the exercise. She said:

"If you have secure IV access then yes."

Then:

"In an ideal world that would be the case but obviously ... if you were to give antibiotics ... to disrupt [the flow the] fluid for any point of time... [as read]"

And Mr Johnson said:

"Absolutely. It's a clue. It doesn't give an absolute answer, but it gives you a clue as to the time between the taking of the actual readings, doesn't it? [as read]"

And so it went on from there, although for not very much longer. Our concern, my Lord, is in fact to try to perform a calculation like that is technically complex.

It's not a simple matter of saying we know what the prescription is and we've got some time therefore we can work out -- we have some readings, therefore we can work out when the prescription began.

As it happens the witness evidence provides absolutely no platform for that, but our concern goes beyond the evidential flow to the idea that this is a platform for either questions or comment as to the time at which morphine was commenced by virtue of performing what is in effect a back calculation here and our concern that the jury may decide it's open to them to try to do so.

So having identified what it is we object to and why, what we ask respectfully in light of the fact -- this is really something for expert evidence, not for an assessment on the hoof with a witness who couldn't really answer it -- what we ask for is this area not form part of the case, that there not be questions or comment on what the rate of flow supposedly tells us about when prescriptions began and, specifically, the jury in due course be directed to disregard that and not to embark upon the exercise of trying to perform a back calculation of morphine on the basis of what we have here.

That's the objection we raise or the concern we raise and we raise it because this is a technical matter. The witness's evidence did not support the prosecution's proposition but we can see how the matter is left and how it may be used unless that's corrected.

That's our concern.

MR JUSTICE GOSS: Thank you. Mr Johnson?

MR JOHNSON: I think my learned friend is getting a bit confused with the greatest of respect. Back calculations commonly arise in criminal proceedings in breathalyser cases and do concern expert evidence because they relate to the rate at which the liver metabolises alcohol and therefore if you take a blood alcohol reading at a specific point in time and then calculate back what the reading would have been at the time the person was driving.

This has nothing to do with back calculations. It's a chart that says that at 03.30 morphine commenced and says that at 04.30, 0.35 of a millilitre had been delivered and we know that the prescription was 0.34ml per hour. That is factual evidence from which the jury could conclude that this morphine dose was started an hour before 04.30 for two reasons: one, that the chart itself says that it started at 3.30; and the other because an hour's worth had been delivered by 04.30.

That doesn't involve any expertise. The basis of the admissibility of expert evidence is that it relates to a subject that's beyond the experience of a juror.

This speaks for itself.

MR MYERS: First of all, if by using back calculation there was any misunderstanding that I was talking about the metabolising of alcohol in a liver, I wasn't; I mean it in the literal sense. This is an extrapolation backwards from a point. That's the first thing.

Secondly, we know from the witness these timings are approximate and so --

MR JUSTICE GOSS: That's the point that can be made, that these are based on the timings that are recorded there and the extent to which they are or are not accurate, and you have witness evidence that they are not precise timings.

MR MYERS: That's correct, my Lord.

MR JUSTICE GOSS: But the actual process of saying if an infusion was commenced at 03.30 exactly, and if the next reading was taken at 04.30 exactly, can one not do the calculation? Except you wouldn't. It was qualified by the witness herself saying that sometimes the rates of flow are different. There are all sorts of qualifications.

MR MYERS: We would say at most definitely no, respectfully, the calculation can't be done. First of all because the whole business of this is premised upon an uncertain and speculative platform which is we don't know what the actual timings are we're dealing with and, secondly, because the witness has said in any event that if you've got any interruption in the flow of the line, for instance with antibiotics or matters like that, that can affect it, and we don't know.

Thirdly, because we do not know and we do not have evidence as to, for instance, the type of tube or how it flowed or what issues there may be in the flow of it or whether there's any break in the cycle of that, we don't have that.

All of this is premised upon assumptions that are not actually properly founded in evidence, it's premised upon the assumption if we take a period of 1 hour --

MR JUSTICE GOSS: I know what you're saying. I think your point is -- I was articulating this slightly differently, but I understand what your point is.

MR MYERS: So we submit respectfully, it isn't -- we do not get past a hurdle of this being safe or properly applicable because the parameters within which we are operating are not sufficiently clear and we respectfully submit if this was to be part of the prosecution case on this, it really was a matter that should have been dealt with with technical expert evidence. It's too late now.

MR JUSTICE GOSS: Such as what?

MR MYERS: Such as, for instance, how the flow works, what might interfere with the flow, the processes that took place which might have interfered with it, what other witnesses may have to say about the way that IV access was used during the period that this line is in place.

We have none of that. What we have is the proposition it says 04.30, the prescription is 0.34, if 0.35 has gone it must have taken an hour. That isn't apt to the evidence of the witness.

Our submission is this is far too speculative and it should have been dealt with with a witness who can deal with the

technicalities appropriately, not in this way, where in effect a back extrapolation is performed on the hoof with this witness. That was our concern and it remains our concern, my Lord.

MR JUSTICE GOSS: Right. Mr Myers, I think what you're saying is that I should regard this evidence as essentially being inadmissible --

MR MYERS: Yes.

MR JUSTICE GOSS: -- because it has such an adverse effect on the fairness of the proceedings for it to be placed before a jury and it's not simply a question of what weight any jury can attach to it.

MR MYERS: Well, I do for the reasons you articulate. In the normal course of events an application like that would be made before the evidence.

MR JUSTICE GOSS: Exactly.

MR MYERS: We have no choice as to that because --

MR JUSTICE GOSS: I understand it, but I'm just trying to get back to first principles. The first principle is: is the evidence admissible and the answer is, on the face of it, it's admissible.

If it is admissible, would its introduction in evidence be such that it would have an adverse effect on the fairness of the proceedings, and that's the fairness to everyone.

And then the next point is, even if it is admissible and it should not be excluded, then what warning should be given in relation to the reliability or what conclusions can be drawn from it. And that's where you are on strong ground, in my judgment, but I am against you in relation to the first two grounds. So there will be -- it will come with a heavy caveat.

MR MYERS: We're grateful for your Lordship dealing with it in the way that your Lordship does. Thank you.

MR JUSTICE GOSS: All right. Do you wish to go and see Ms Letby?

MR MYERS: Yes.

MR JUSTICE GOSS: I don't know whether there are any other arrangements made for this afternoon or not. I'm thinking of Ms Clancy --

MR MYERS: All other matters have been dealt with.

MR JUSTICE GOSS: -- tomorrow. I just wasn't updated in relation to that. All right. So Mr Myers and Ms Clancy, I assume Ms Clancy as well, will come down and see the defendant.

(3.25 pm)

(The court adjourned until 10.30 am on Friday, 21 June 2024)