

13 December 2022

Baby G

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Tuesday, 13 December 2022

(10.30 am)

(In the presence of the jury)

DR SANDIE BOHIN (continued)

Examination-in-chief by MR JOHNSON (continued)

MR JUSTICE GOSS: It's still cool in here.

MR JOHNSON: Thank you, my Lord. Dr Bohin, welcome back.

I forgot to ask about one thing yesterday before I move on to the issue of what happened in Arrowe Park before [Baby G] was transferred into the Countess of Chester for the first time. I just want to deal with this one issue first and show you a photograph that you have seen before and you were asked to comment on in the witness statement that you made on 7 April 2022.

It's in your comments/opinion section, which, if your print is the same as I have, is the bottom of page 2.

BOHIN: Yes.

JOHNSON: What would you say from your experience about this photograph?

BOHIN: Well, it shows that [Baby G] was nursed in that particular type of bed, a Kanbed, which has very high sides and what the photograph shows is that the position of the vomit would have meant that she would have had to have exerted a huge amount of force to have vomited -- from being on her back to have vomited over the side of the cot and on to the floor and also even further, several feet, on to the chair.

I just find that surprising, given that she was only 2 kilograms at that time, that she could generate enough force to make vomit travel that sort of distance. So you know, clearly that's what happened and that seems extraordinary to me.

JOHNSON: How many years' experience do you have of dealing with children of this sort of age?

BOHIN: My first neonatal job was in 1986, so over 30 years.

JOHNSON: Yes, 36 years. Have you ever encountered a situation in which a child that doesn't have the pyloric stenosis condition that we heard about yesterday has vomited like that?

BOHIN: No.

JOHNSON: Have you ever heard of a case in which a child who didn't have pyloric stenosis vomited to that extent?

BOHIN: No. I mean, you know, it's very common for babies to vomit and certainly in older children with gastroenteritis they vomit quite forcefully, as anyone who's had a child will know. But they are usually sitting up -- because they're older children, they're usually sitting up when they vomit, and they are much bigger than 2 kilograms, which is what -- [Baby G]'s weight was only 2 kilograms and I have never seen a baby of that size forcefully vomit or projectile vomit in that way to that extent.

JOHNSON: Yesterday at the close of business, the jury asked a question. I'll read it to you and ask whether you can answer it, please.

The question is this:

"What is the maximum amount of fluid a baby of [Baby G]'s size's stomach could hold? How much would cause the diaphragm to be compromised?"

This may be two questions, so shall I deal with each individually?

"What's the maximum amount of fluid a baby of [Baby G]'s size's stomach could hold?"

BOHIN: That's an excellent question and something that I've looked into myself. Unfortunately, there isn't a right answer. There's nothing much in the literature to enlighten us on that. People have looked at the volume of a stomach in a term baby who was not being fed, so has never had anything in the stomach, and that is very small. And what happens over time in term babies is that as the feeds increase day on day, the stomach, which is muscular, stretches to be able to accommodate that. But there's no research that I could find that would allow me to inform the jury of the volume of a stomach.

What I know from my own experience, and being at post-mortems, the neonatal stomach in a 2-kilogram baby is very small, about the size of a plum, but it can actually extend a lot. And in a baby who's been fed over many weeks and months, as [Baby G] was, the stomach would actually have enlarged. So it's absolutely impossible to be precise and tell the jury the volume of a stomach in a baby who had been fed for many months.

JOHNSON: Yes. And the second part or the second question?

"How much would cause the diaphragm to be compromised?"

Is there an answer to that?

BOHIN: Again, that's impossible to say because for some babies with normal lungs, a distended tummy might press up on to their lungs only a small amount and wouldn't actually affect very much. But in [Baby G]'s case we know that her lungs were not normal because she had chronic lung disease and so most probably there wouldn't need to be much distension before her lungs were compromised. But in terms of the volume in the stomach, I'm afraid I can't give an answer to that.

JOHNSON: Thank you very much.

MR JUSTICE GOSS: Sorry, could I just say that I should have mentioned to the jury that I received that note from one of you; I don't know whether you discussed it between yourselves. After we rose yesterday afternoon I handed it to counsel and it was going to be dealt with today.

But you have heard the doctor's answer to it, that's as far as it can be taken, thank you, with this witness certainly. I don't know whether any other witnesses will be able to assist or not.

MR JOHNSON: Well, I doubt it, but...

MR JUSTICE GOSS: So do I, but...

MR JOHNSON: Dr Bohin, can I move on, please, to a witness statement that you made on -- not very long ago, actually, about 3 weeks ago, on 23 November 2022.

Is it right that you were asked to look at whether there was any clinical evidence that [Baby G] was intolerant of feeds at any point whilst she was an inpatient at either Arrowe Park Hospital or the Countess of Chester Hospital?

BOHIN: Yes.

JOHNSON: You were asked to comment on whether vomiting was a notable clinical feature whilst [Baby G] was an inpatient at either Arrowe Park or the Countess of Chester.

BOHIN: Yes.

JOHNSON: And thirdly, you were asked to look at the issue of whether there was any clinical evidence to support the diagnosis of gastro-oesophageal reflux in [Baby G].

BOHIN: Yes, that's correct.

JOHNSON: Did that cause you to go, in effect, back to the beginning, so far as [Baby G] was concerned, to the time of her birth at the end of May 2015?

BOHIN: Yes, it did. I needed to read very thoroughly the nursing and medical and observation charts for the whole of her feeding history.

JOHNSON: So taking things up at your paragraph 2.3 then, please, did you observe what we have established in evidence, namely that [Baby G] was born on 31 May 2015?

BOHIN: Yes.

JOHNSON: And that enteral feeds, so milk feeds, were cautiously commenced at half of 1 millilitre every 4 hours via a nasogastric tube on 15 June 2015?

BOHIN: Yes.

JOHNSON: Merely summarising the position, were those feeds tolerated and gradually increased?

BOHIN: Yes, they were.

JOHNSON: And full feeds of milk were reached by 22 June 2015?

BOHIN: Yes.

JOHNSON: And as always, are full feeds calculated on the basis of so much in millilitres per kilo per day?

BOHIN: Yes.

JOHNSON: And in [Baby G]'s case was that 150ml per kilo per day?

BOHIN: At that stage, yes.

JOHNSON: Yes. I know this wasn't the position, but if she had been still about half a kilo in weight, she would have received 75ml per kilo per day?

BOHIN: Yes.

JOHNSON: At that point?

BOHIN: Yes.

JOHNSON: Putting that into context, that would be roughly, in very rough terms, about just under 3 millilitres an hour over a 24-hour period --

BOHIN: Yes.

JOHNSON: -- give or take?

BOHIN: Yes.

JOHNSON: Was she actually fed initially hourly via the nasogastric tube?

BOHIN: Yes, she was fed hourly for a long time.

JOHNSON: Yes, and was there any vomiting or nasogastric aspirates, and if so, to what extent in Arrowe Park?

BOHIN: There was no vomiting and the nursing staff recorded the nasogastric aspirates as minimal, which I take to be less than a millilitre really.

JOHNSON: Because feeds, the breast milk, was tolerated, was some fortifier added from 26 June 2015?

BOHIN: Yes. I think it's probably around that time there was a plan to add fortifier a day or so before. Fortifier is usually added as half strength first of all and then if that's tolerated goes up to full strength. So the notes aren't really clear about

when she went to full strength fortifier, but it was around -- she was definitely receiving it on the 26th.

JOHNSON: Was there a hiatus in feeding breast milk because [Baby G] had to have this Broviac line inserted by the surgeons at Alder Hey Hospital in Liverpool on 26 June?

BOHIN: Yes. She'd had a pulmonary haemorrhage and required a Broviac line and the Broviac line is inserted under general anaesthetic and so feeds would have needed to be stopped, but they were reintroduced -- within the same day.

JOHNSON: Yes. So thereafter, can you take us through [Baby G]'s feeding history by reference to paragraph 2.6 of your report, please?

BOHIN: Yes. The feeds on 30 June were hourly feeds and they were running at 3ml every hour. The decision was made to increase that volume to 4ml every hour. When that happened, [Baby G] had a single large nasogastric aspirate.

The volume wasn't recorded, it just says "large aspirate".

The medical team were informed, they decided not to stop the feeds, the feeds were continued, and thereafter were well tolerated to the extent that breast milk fortifier was reintroduced later on that day.

Would you like me to continue?

JOHNSON: Yes, please. So that's 30 June. Did you then move on to a change on 3 July?

BOHIN: Yes. Between 30th and the 3rd, [Baby G] continued to feed on hourly nasogastric feeds. On 3 July, the feeds were increased from 150ml per kilogram of body weight per day to 165ml per kilogram of body weight per day. This was because she hadn't been gaining weight that well and in light of that the volume given was increased in an attempt to get her to gain weight.

That increase was well tolerated and there was no vomiting or increased nasogastric aspirates. What the staff did note -- that [Baby G] had developed frequent desaturations, but these were self-correcting, which means that she very briefly desaturated but managed to get her saturations up without any help or intervention from nursing staff.

JOHNSON: Thank you.

BOHIN: There's a nursing entry that mentions introducing anti-reflux medication for the desaturations and that was the first

mention of gastro-oesophageal reflux that I could find in the notes. And coincidentally, with these desaturations and the mention of anti-reflux medication, [Baby G] developed very thick secretions from her breathing, her endotracheal breathing tube, and these did subsequently grow a bug.

JOHNSON: Is that also on 3 July?

BOHIN: Yes. On 3 July there was also a ward round note, so as well as the nurses saying that there should be -- that the anti-reflux medication should be optimised, there's a ward round note on that day, again saying that there was a plan to optimise management of reflux, but reflux had not been mentioned prior to that at all. But what they did was they elevated the cot a little bit. So the standard practice is to elevate the head end of the cot by about 30 degrees so that, just by pure physics and gravity, it's very difficult or more difficult to vomit if you're sitting up or you're elevated.

They also started a course of erythromycin, which is an antibiotic. It's not really clear why they started that. There are two possible reasons. One is that erythromycin can act as a prokinetic, so it can act as a way of advancing your stomach contents through the stomach, so that's one reason. But also in the notes it mentions covering for an organism called ureaplasma, which is a rare organism found in babies with chronic lung disease and erythromycin is also the treatment for that and the notes don't make it clear whether erythromycin was prescribed as a prokinetic to help the reflux or to help with ureaplasma.

They also decided to start a medication called Gaviscon which adults can use as well as babies. In babies it comes as a powder that you can add to the milk. It makes the milk slightly thicker if given in large doses, but in the kind of dose that they were giving to [Baby G] there would not have been any obvious noticeable difference.

But what Gaviscon does, when it's in the stomach, it kinds of forms a sort of raft over the top of the stomach contents and it makes it more difficult for you to vomit them.

JOHNSON: Yes. I think there's an image of that on the TV adverts for Gaviscon.

BOHIN: Possibly! It's not clear from the notes when Gaviscon was started and there's no reference to starting Gaviscon in the medical notes, but there is reference in the nursing notes and there is a prescription that I can find when Gaviscon was actually given.

JOHNSON: Thereafter, how did [Baby G] progress? I'm moving on to your paragraph 2.9.

BOHIN: Yes. [Baby G] improved. She was extubated on to BiPAP, so a kind of fancy form of CPAP really, on 7 July. She continued to tolerate feeds, which by this time were 5ml every hour.

On 12 July, the feeds were increased again to 180ml per kilogram per day. Previously they'd been 165ml per kilogram per day, so they were increased to 180 and then to 190ml per kilo per day on the 15th. So the volume she was receiving had increased because her weight gain was still sub-optimal and the team were trying to maximise her weight gain. But this change in feed volume was well tolerated, it wasn't associated with any vomiting or large aspirates.

JOHNSON: Thank you. Moving on to 31 July.

BOHIN: Yes. On 31st, [Baby G] had three desaturations which were not self-correcting and required a brief increase in her oxygen concentration. But thereafter, she recovered, she continued to have very fleeting self-correcting desaturations after feeds, which is very normal in neonates of this size.

She had a single large nasogastric aspirate of 10ml prior to the feed at 5 o'clock and that feed was subsequently omitted but then she was fed thereafter without any problems so there was just one single large aspirate of 10ml.

MR JUSTICE GOSS: That was still the 31st?

BOHIN: That was on the 31st, yes. She remained well and it is of note that on 1/8, she was given her immunisations and that -- you just would not give immunisations if a baby was unwell. So she must have been well and stable for the team to have considered giving her her immunisations on that day.

MR JOHNSON: Does that follow as a general principle that if the medics are actively considering giving immunisations to a child of this age then the view must be that the child is well?

BOHIN: Yes, because immunisations can upset babies and can just destabilise them, so you wouldn't consider giving immunisations unless a baby was absolutely stable.

JOHNSON: And we know that immunisations were being considered on the 6th and 7 September when [Baby G] had her incident that we have been exploring for the last few days in evidence.

BOHIN: That's correct.

JOHNSON: So that would be a reflection of the view that had been taken medically of her before the desaturation?

BOHIN: Yes.

JOHNSON: Moving on to 3 August then, please.

BOHIN: Yes. On 3 August [Baby G] had an increase in her desaturations and also these were accompanied by bradycardias, so a slowing of her heart rate. In view of that, the medical team were cautious and did an infection screen and started her on antibiotics.

Feeds, however, were continued and she continued to tolerate feeds, which were still running at 190ml per kilogram per day. There was no vomiting and aspirates were minimal. So although it was the right thing to do to cover for infection, the feeds continued without a problem.

On 12 August, [Baby G] was well, was doing so well that the feeds were increased to two-hourly from hourly, and that change in -- so that means then that she was given double the amount but on alternate hours as opposed to hourly and that change was well tolerated.

JOHNSON: Yes. And what does the fact that the feeds were doubled but the incidence of the feeds were halved, so to speak, or doubled mean?

BOHIN: That means [Baby G] could tolerate that sort of doubling of volume in her stomach and that her stomach could accommodate that.

JOHNSON: Yes. So following that increase of the quantity being given because the frequency was halved -- or doubled as well, I should say --

BOHIN: Yes.

JOHNSON: -- was [Baby G] then transferred from Arrowe Park on the Wirral to the Countess of Chester Hospital on 13 August?

BOHIN: Yes.

JOHNSON: So far as the discharge summary was concerned, first of all can you tell us what a discharge summary is and then tell us what it said so far as [Baby G] and her ability to tolerate feeds was concerned?

BOHIN: Yes. All neonatal units in the UK have a computerised neonatal discharge summary that is electronic, that is shared

between neonatal units, so that information can be shared between the units and this was the case with [Baby G]. It's usually the job of the most junior person in the department to write the discharge summary. It's called Badger because that's the name of the man who developed the system. On the Badger summary it's usually the SHO who does that and clearly this person had their work cut out because [Baby G] had had a very difficult time when she was at Arrowe Park. She had a very long period of intensive care with lots of problems, so it would have been difficult. That first episode has probably got almost 2,000 pages of notes for the SHO to have gone through.

What they tend to do for the GP and the hospital that the baby is being transferred to is write a list of the main problems that the baby's suffered during their stay, and then, system by system, go through it, so they would write a paragraph on the respiratory system and the problems that ensued, write a next list of problems with the heart, problems with feeding, problems with neurology, how many bloods transfusions you've had, how many infection screens you've had, all of those details are the -- the whole episode is kind of précised into one summary.

Finally, for the accepting hospital they would usually give the current status of the baby, the current weight, what the feeding regime is, the current problems that the receiving hospital need to be aware of, and a list of medication.

In [Baby G]'s summary there was no mention of the fact that she was on Gaviscon and no mention that gastro-oesophageal reflux was being seen as a potential problem for her.

JOHNSON: Did the Countess of Chester notes mention gastro-oesophageal reflux?

BOHIN: Yes. In their very first medical entry -- I think it was Dr Ventress -- she's written in their problem list that gastro-oesophageal reflux was a potential problem.

So although it wasn't in the discharge letter, I would imagine she had had a verbal correspondence with the people at Arrowe Park because that would be normal for you to have a verbal handover as well as having a very detailed discharge letter, but it's mentioned in their list.

JOHNSON: We haven't given the jury the feeding charts going back to 13 August, but you have reviewed them. What do they show so far as [Baby G]'s ability to tolerate two-hourly feeds between her transfer into Chester on 13 August and the events about which the jury have been hearing evidence, which occurred in the early hours of 7 September?

BOHIN: The feeding charts show that the feeds were well tolerated with no vomits, no large aspirates. The nursing notes mention the occasional self-correcting bradycardia, so a drop in heart rate, after feeds. They were noted but [Baby G] didn't become unwell or destabilised, and that is so common as to almost be a normal feature in neonates.

JOHNSON: On 24 August, so about 2 weeks before 7 September, was [Baby G] put onto three-hourly feeds, so upped from two-hourly to three-hourly feeds?

BOHIN: Yes.

JOHNSON: Did somebody by mistake give her 45ml of feed instead of 36ml?

BOHIN: Yes. The three-hourly amount was 36ml, which she had been tolerating, but in error at 8.45 she was given 45ml by mistake. But despite this increase in volume, she tolerated that, there was no vomiting and it was well tolerated.

JOHNSON: So this is an increase of 9ml on a feed that should have been 36ml?

BOHIN: Yes.

MR JUSTICE GOSS: Sorry, just the date and time of that.

BOHIN: 8.45 on the 24th.

MR JOHNSON: 8.45 am?

BOHIN: Yes, 08.45 am.

JOHNSON: So it's an increase of exactly 25%, isn't it?

BOHIN: Yes.

JOHNSON: An accidental increase of 25% results in no problems for [Baby G]?

BOHIN: Correct.

JOHNSON: Thank you. Did those three-hourly feeds continue?

BOHIN: Yes, she went back to three-hourly feeds with the added Gaviscon.

JOHNSON: And were there any issues so far as aspirates or vomiting were concerned?

BOHIN: No vomiting and the aspirates were said to be minimal by the nursing staff.

JOHNSON: Did the issue of self-correcting desaturations continue?

BOHIN: Yes, they were noted during and after feeds.

JOHNSON: But did they cause a problem?

BOHIN: No.

JOHNSON: And so bringing us up to date so far as [Baby G]'s collapse is concerned and going back to divider 7 in the bundle that the jury has, the number 2 bundle, going to the back of that bundle to find the feeding charts, it's the penultimate change, the one before the end, J7012. Did you look at those?

BOHIN: Yes.

JOHNSON: And what conclusions or observations did you make?

BOHIN: It's clear that, certainly by the 6th, [Baby G] was receiving alternate tube and -- nasogastric tube and bottle feeds. They were three-hourly feeds. They were tolerated. There was no vomiting, there's no mention of aspirates, and where the nasogastric tube has been tested for acidity, certainly on the 5th, the nurses just marked "positive for acid" without actually writing down a pH. But at 20.00 on the 6th, the nurse has written that there is a pH of 4, which is obviously acid, and that's before the nasogastric feed, but all those feeds are well tolerated.

JOHNSON: Yes. Is that acidic -- we know that's [Nurse E], she told us that was her signature. Is that pH value of 4, so an acidic value, consistent with there being a large amount of undigested milk in the stomach?

BOHIN: No, it's not. Milk is neutral and gastric contents are acid. A pH of 4 is very acidic. If there was undigested milk or milk in the stomach, that would buffer or neutralise the pH and you would expect the pH to be higher than that.

JOHNSON: So a neutral -- I'm sure the jury all know this, but a neutral substance, be it milk, be it water, added to an acidic substance reduces the level of acidity?

BOHIN: Yes. So a neutral pH is 7. Anything less than that is slightly acidic. I have reviewed the subsequent feeding charts from Arrowe Park and indeed the Countess of Chester and where there have been minimal aspirates or where there have been milky

aspirates, the pH is usually around 5.5 or 5, but never gets as low as 4, where there are milky aspirates obtained.

JOHNSON: Yes. And thus, turning the page in the jury bundle to [Nurse E]'s entry at 02.00 hours on 7 September, what conclusions do you draw from your expertise as to whether or not [Baby G] had a large volume of undigested milk in her stomach when [Nurse E] put in 45ml?

BOHIN: In my opinion, the stomach was empty at that time because the pH is 4 and I wouldn't expect the pH to be that low if there was a large volume of undigested milk in the stomach.

JOHNSON: And thus, as a consequence of her having vomited in a projectile way, as we have heard described, and there then having been recovered or aspirated from her stomach the 45ml of feed, what conclusions do you draw as to what was in her stomach and what caused her to vomit?

BOHIN: She must have had an additional volume of milk in her stomach because there's no way that -- she had an empty stomach here at 02.00, she was then fed, and so she must at some point after that feed have been given an excessive amount of milk in order for her to be able to projectile vomit a huge amount and have a 45ml residual within her stomach.

JOHNSON: Is there anything in the records to reasonably suggest that prior to this incident she was a child that was prone to vomiting?

BOHIN: No.

MR JOHNSON: Thank you, Dr Bohin. Would you wait there, please?

Cross-examination by MR MYERS

MR MYERS: I'm making a note of one thing before I commence, my Lord.

MR JUSTICE GOSS: Yes, certainly.

(Pause)

MR MYERS: Just before we turn to what you've just been dealing with, Dr Bohin, may I ask one general matter.

It's just about the composition of air. I don't know if you can help us with this. The main constituents of air are nitrogen and oxygen, aren't they?

BOHIN: Yes.

MYERS: Can you help us with this? The proportion of nitrogen is about 78%, isn't it?

BOHIN: Yes.

MYERS: Yes: 21% oxygen, 78% nitrogen, approximately that, isn't it?

BOHIN: Yes.

MYERS: Thank you. We've just been through the statement which you prepared a few weeks ago dealing with the history of [Baby G] at Arrowe Park Hospital. To deal with that, you reviewed her notes, didn't you, Dr Bohin --

BOHIN: Yes.

MYERS: -- and various other records? With your assistance I'd like just to go to some of the notes to pick out some details if that's all right. You said that there were about 2,000 pages of notes.

BOHIN: No, no, there were 6,000 pages in the whole bundle.

MYERS: Right.

BOHIN: The 2,000 were my estimate of the first episode of care at Arrowe Park.

MYERS: With your assistance I'm going to go to about 20 of them, so getting off quite lightly. The rest are there if they're of relevance to anybody. But there are some particular aspects of how she presented that I would like to look at with you.

I'm going to ask Mr Murphy to assist with this. The first page I'm going to ask to put up is J4205. These aren't currently on the system but once we've seen them we can access them again.

I'm not expecting you to perform any kind of memory test of these things, and you'll see there are particular points I just want to identify. If we look down that page, we can see an entry on 2 June 2015 at 20.30. Do you see that?

BOHIN: Yes.

MYERS: Thank you, Mr Murphy.

BOHIN: Yes.

MYERS: It sets out what the gases were at 19.30. These are Arrowe Park records. It says below the gases:

"Saturating well: 92 to 94% at 19.30 in 50% oxygen."

Then below that it says:

"However, over next 4 minutes SaO2 declined to mid-80s [as read]."

So that means her oxygen saturation dropped to the mid-80s, doesn't it.

MR JUSTICE GOSS: I think it may be 45 mins. It looks to me like a 5 after the 4.

MR MYERS: Yes, that's probably right, yes. On mine it looked like 41, but yes, it's 45 of course. So it dropped to mid-80s?

BOHIN: Yes.

MYERS: That didn't lead to any lasting problem, we see that, and there's an intervention. I'm not suggesting it became more dramatic than that.

There is a pattern of desaturations with [Baby G] at Arrowe Park, isn't there?

BOHIN: Not in relation to feeds. From my memory, on 2/6 and looking at that entry [Baby G] was on a form of -- [Baby G] was clearly very seriously ill and unwell and was on a form of ventilation called oscillation, which is a kind of step up from conventional ventilation, which shows us how unwell she was.

So the fact that she desaturated then, you cannot establish that that was down to her being fed, it was down to the fact that she was seriously ill, and I think she probably was also on nitric oxide at that time which is, yes, a further step forward. So this is someone who is as sick as you could possibly be.

MYERS: Just so it's clear, I'm not going through this to try to link this to feeding. So we can all follow, this is to look at how unwell [Baby G] was.

BOHIN: Yes, she was very unwell at that time.

MR JUSTICE GOSS: Sorry, what was that form of ventilation?

You did say it.

BOHIN: Oscillation, high frequency oscillation.

MR JUSTICE GOSS: This is a step up from just an ordinary tube down to the bilateral airways?

BOHIN: You still have a tube, but it's a different machine, a different mechanism. It's used for the sickest and most vulnerable babies, as is inhaled nitric oxide, which she also received.

MR JUSTICE GOSS: Sorry, Mr Myers.

MR MYERS: Not at all, my Lord.

The next page I would like to go to, please, is page 4216, and we're moving forward to 4 June.

These are notes for 4 June and the entry I'm going to go to is for 23.45 on 4 June. Thank you.

23.45. It says:

"Written retrospectively."

These are, of course, clinical notes, and over the page we have the signature of the doctor who signed off, but it's just the starting part that I'm going to.

"Arrived on NNU at 22.30 for another ill baby but had to attend to [Baby G] first due to desaturation to 60s."

Is that "good chest"?

BOHIN: "Wobble."

MYERS: Does that mean movement in the chest?

BOHIN: Because of the oscillatory ventilation it makes the whole baby shake, so you need to -- if it's working effectively you need to look for chest wobble, so you need to look for movement in the baby.

MYERS: So:

"... desaturating down to 60s. Good chest wobble. Distended abdomen."

That's also recorded at that point. It then goes through.

BOHIN: It also says:

"No perforation on abdominal X-ray."

MYERS: Yes. No perforation of what, in the abdominal area?

BOHIN: Yes.

MYERS: Right. And then it goes through other findings and by all means take us to any that you wish to, but all I'm doing at this point is identifying certain issues that arise while she is at Arrowe Park of things that we see in the notes.

BOHIN: It tells you what the actual problem was and the cause of the desaturation there because the next line after the "no perforation on the abdominal X-ray" says that the chin was on the chest, and therefore if your chin is on your chest, you block your airway, and they put in a gauze roll under the neck to stop that happening again and then the problem resolved.

MYERS: Thank you. In fact, I'm just going to go to the top of the page if I could as well. That note that we've just looked at deals with the situation from 22.30. This is a note at 23.00, so just beforehand, and how [Baby G] presented at 22.15:

"Whilst I was with another baby for resus called to see [Baby G]. Sudden desaturation. In 100% oxygen, desaturation 70%."

It has various readings:

"Good wobble seen. Abdo looks distended."

So that would appear to be all part of the same incident, would you agree, Dr Bohin?

BOHIN: Um...

(Pause)

MYERS: Or if it isn't, please say.

BOHIN: Well, it's not clear. Somebody's written something at 23.00 about something that happened earlier, so yes, it's probably part of the same incident, yes. I think what it does illustrate, looking at those readings, the ventilatory readings there. You said there were a number of -- there's a whole row of numbers. Looking at that, that tells me that she was on then a vast amount of ventilation and was also receiving nitric oxide at a very high level. That sort of ventilation with the nitric oxide is about as much ventilation as you could possibly give to a baby. So she was as sick as you could possibly be and therefore it would not be uncommon to have desaturations or bradycardias or whatever. If you're that sick, that's kind of normal for a baby in intensive care who is that unwell.

MYERS: Right, thank you.

MR JUSTICE GOSS: Maybe I'm misreading these because we haven't got the one below, but it seems to be a note written in retrospect --

BOHIN: Yes.

MR JUSTICE GOSS: -- at 23.00 hours saying:

"At 22.15, while I was with another baby for resus, called to see [Baby G]. Sudden desat in 100% oxygen, desat 70%."

And then various figures:

"Good wobble seen. Able (sic) to" --

BOHIN: "Abdo looks slightly distended."

MR JUSTICE GOSS: "Abdo looks slightly distended. Cold light showed no sign of pneumothorax."

Then there's a symbol, which I think means actions, is it, or something like that?

BOHIN: Yes.

MR JUSTICE GOSS: "(1) Increased MAP 12.7. (2) Abdominal X-ray and chest X-ray to rule out perforation. Dr Lee arrived at 22.30 to take over the care."

So that seems to be something that happened at 22.15, and then of course in the later note that we've just looked at the X-ray has been taken --

(overspeaking) and they've had the result and then you say that there's the issue with the chin.

BOHIN: Yes.

MR JUSTICE GOSS: So it's clearly linked in time and they are linked as a sequence. They appear to be two --

BOHIN: It does appear to be two, you are absolutely correct, because this mentions the chin on the chest, yes.

MR MYERS: Thank you. It's my fault for going back to front with that. I apologise. I'm grateful.

Let's move forwards to 6 June, please. That's page 4227. As is quite apparent from what I've dealt with already, Dr Bohin, we are moving forwards over very large numbers of medical notes. These are just examples. These are clinical notes by the doctor who's treating and we're just looking at the top half of the page, please, looking at some of the features we find.

It's an entry for 01.30. Not the easiest writing to decipher but that's not unique in this case. It says:

"Cannula..."

Is that "thought to be"?

BOHIN: "... thought to be leaking by nursing staff."

MYERS: Yes.

BOHIN: "Sodium bicarbonate infusions stopped."

MYERS: "Following gas and some..."?

BOHIN: "Handling."

MYERS: Handling.

BOHIN: "... saturations dropped..."

MYERS: "... to the low 60s."

It then -- let's read through this note. It's relatively short:

"If FOV MAP..."

Can you hep us with that, please?

BOHIN: HFOV is high frequency oscillation ventilation, which is the oscillation I spoke about:

"Mean airway pressure [is MAP] increased to 10.5 but no improvement in oxygenation."

I can't read the next thing and:

"Mean blood pressure dropped to 37 from 40."

MR JUSTICE GOSS: I think it's "noted".

BOHIN: Oh yes, "noted".

MR MYERS: MAP returned to 10?

BOHIN: "MAP returned to 10 and adrenaline increased to 2 micrograms per kilogram per minute."

So [Baby G] was on an adrenaline infusion for her blood pressure, which shows me -- that's not the first line medication for blood pressure so that shows me that her blood pressure was clearly a problem. Then it goes on to talk about the examination.

MYERS: It says:

"Oedematous, good wobble. Abdo soft but discoloured."

That's what it has recorded on this occasion, isn't it?

BOHIN: Soft but discoloured and she was paralysed as well so (inaudible) paralysis.

MYERS: Right. And Dr Rackham -- "Discussed with Dr Rackham on the phone"?

BOHIN: "Maximise inotropes to optimise perfusion."

So again increase the adrenaline or add another inotrope:

"Try brief suction of the endotracheal tube. Minimise handling. Not for re-cannulation at present."

MYERS: Thank you.

BOHIN: So she didn't tolerate any sort of handling and would immediately drop her saturations and her oxygenation, so they wanted to minimise that, but then there's the conundrum because she needed a new drip, so that means that you need a lot of handling.

MYERS: We see from that again a propensity for her oxygen saturation to drop, which it does on handling on this occasion, doesn't it?

BOHIN: It does in the early stages of her life, in the beginning, of June, yes. That's in the first week or so of her life when she was gravely ill.

MYERS: We'll carry on. Also we notice the abdomen is discoloured.

BOHIN: The abdomen is discoloured there, but this is a baby who's only 500-odd grams and so would have no subcutaneous fat at all and therefore the abdomen in babies that are that small

often looks discoloured because you can see the blood vessels in the skin and you can see the bowel and the bowel almost through the skin as the skin is almost translucent. That doesn't necessarily mean that there's pathology there, that's quite normal in a baby that's that tiny.

MYERS: Thank you. Can we move, please, next to page 4461, which is later the same day, and this is in the nursing notes. Which you are going to see, it has to be said, it might be thought by some, are an awful lot easier to read than the Countess of Chester nursing notes.

This is a nursing note at Arrowe Park Hospital.

We can see it relates to [Baby G] and it has her date of birth. It has the name of the nurse on the right-hand side where it says "electronically signed by", or at least I take that to be the name of the nurse, and it has a date and time so we can see when the entry is made, and this is at 20.32 on 6 June. The last entry was at 1.30 that morning. We can see it relates to [Baby G] and it says in the body of the text:

"Head scan done this afternoon. Abdominal X-ray done as abdomen shiny and some distension and some colour change. Plan to commence on metronidazole. Insulin recommenced this evening."

Then reference to other medication, but I just identify there:

"Abdominal X-ray done as abdomen shiny. Some distension and some colour change."

Was she -- did you recall whether at this point she was on any type of feed or is it all intravenous at this stage?

BOHIN: It was all intravenous. She didn't start her feeds until the inotropes, which are drugs to help your blood pressure, until they were stopped because if you feed a baby then in order to digest it you have to divert blood to the gut in order to help/aid with digestion and clearly they didn't want to do that while she was so gravely ill and on lots of drugs to help her blood pressure. And also in a baby that has problems with low blood pressure if you feed them you will increase their risk of developing necrotising enterocolitis, which is clearly what they were concerned about there because they did the X-ray and then they added in metronidazole to her antibiotic regimen, which would be normal practice, to be very, very cautious in a baby that was so gravely ill in case she was developing necrotising enterocolitis.

MYERS: So far as we know she didn't develop necrotising enterocolitis?

BOHIN: No, she didn't, but it was still the correct thing to add in the metronidazole.

MYERS: Of course. So the distension would be due to a build-up of gas unrelated to the feeds; is that right?

BOHIN: Yes.

MYERS: And some clear change but, as you've explained, seeing colour change in the abdomen of a very small child is something you might expect to find?

BOHIN: Well, you would always find that in a baby of only 500-odd grams, yes.

MYERS: Next, please, the following day, 7 June 2015, page 4238.

It's an entry we can see at the top half of the page so if we enlarge that part, please. 7 June 2015, 6.30 in the morning. It's the first part I'm interested in going to, but we have the rest of it to see:

"Attended to patient as desaturation to 60s. No bradycardia at 05.35. Over 15-minute period repeatedly dropping sats to mid-60s/70s. Improving with Neopuffing but then dropping again. Occurred after change in baby's position. Good AE bilaterally on auscultation."

In other words that's listening, is that, and AE is that air entry?

BOHIN: Yes.

MYERS: "Good chest wall movement. Cold light applied."

Is that to see if there's any damage or any pneumothorax?

BOHIN: It is to see if there's any pneumothorax.

MYERS: It says -- is that:

"Increased transillumination on the right side"?

BOHIN: Yes.

MYERS: "Oxygen gradually increased to 100% but sats sitting in low 80s. Rate goes back to 55 flow 50 [as read]."

BOHIN: "From 50."

MYERS: Sorry, my fault:

"... from 50. Called Dr Hughes who attended within 50 minutes. Urgent X-ray performed."

And the X-ray is then reviewed:

"No pneumothorax, no significant change previously."

BOHIN: Yes.

MYERS: Again, just identifying there, recognising this is only just after we're about a week old with [Baby G] now, but again a propensity to desaturate. She's very young, very unwell, but she is desaturating repeatedly at this point, isn't she?

BOHIN: Yes, I think the distinction needs to be made between the desaturations in a critically ill baby who is receiving this amount of intensive care to a baby that is several months old who is not receiving that amount of intensive care and the causes are different -- the causes of the desaturations are different.

MYERS: All right, thank you. We'll move forward a week then to 14 June. Page 4271, please.

These are notes on 14 June at 08.00. We can see a review setting out medication at the top of the page.

If we scroll down the page it says:

"Sepsis."

Underlined?

BOHIN: That just is trying to state the position with -- for anybody else who reads the notes where we are in terms of sepsis because it's so common in babies who are this sick.

MYERS: All right. where I'd like to go to is down to where it says "on examination". So apologies, Mr Murphy, for coming out of that. But "on examination", just to see what is said there.

BOHIN: "Pale pink. Capillary refill time less than 2 seconds. AF [anterior fontanelle] soft. Some oedema [which is swelling] persists. Desaturated on handling to the 80s [which is completely normal in a baby which is this sick]. (inaudible) squeaky bilateral air entry. CDS. Both heart sounds present with no added sounds. GIT [gut]/abdo not examined as prone."

So that meant that she was being nursed on her tummy.

MYERS: All right. What I'm identifying there is that desaturations on handling continue but, as you identify, she's still very young and receiving a lot of support?

BOHIN: It would be normal for a baby that ill to desaturate whenever she was touched, which is actually why we have minimal handling of these babies. So they are only touched when absolutely necessary because of that very fact that they tend to desaturate.

MYERS: Thank you. Next, the same day -- that was at 08.00 and the next entry is for 23.38 that evening, and it's in the nursing notes at page 4510, please, Mr Murphy.

It's easy to enlarge the top part of that page.

This is -- we see -- I'm going to straight to the time and the date first, 14 June, 23.38. We have the name of the nurse. Just underneath there we have the progress note. I'm going to go to that:

"[Baby G] is now 14 days old and stable, therefore incubator changed and came out for first cuddles. Tolerated cuddles well and settled back in incubator. Saturating well but last blood gas poor, therefore rate increased and suction..."

It says "suction 7 given", but it should be "suction given" maybe?

BOHIN: Yes.

MYERS: "Minimal secretions from ET: small, bloodstained."

Do you see that?

BOHIN: Yes.

MYERS: Nothing remarkable about ET tube being small and bloodstained in this situation, is there?

BOHIN: No. Because I would imagine she would have been having fairly regular suction of that ET tube in order to keep it patent.

MYERS: Yes, but it is entirely possible to get secretions, small, bloodstained, around the ET tube without there being any deliberate harm, isn't it?

BOHIN: Well, the nursing staff would have been causing trauma by putting the suction catheter through an ET tube, so if you get

bloodstained secretions because you have been suctioning down the ET tube, that is a consequence of the nurses doing cares and ensuring that that tube is patent. That's very different to having bloodstained secretions where there's no ET tube present.

MYERS: So an ET tube in itself, if there's been suction taking place, could cause bloodstained secretions; is that right?

BOHIN: It can do depending on how aggressive, I guess, the nurse is being, but also what I don't know is at this time were things like her platelets normal because if her platelets were low -- on the previous note that you showed me her platelets were only 22, so if her platelets were low then any sort of intervention like that would cause bleeding.

MYERS: In fact she had a transfusion -- I don't know if we have page 4818 available, but she was given a transfusion at 13.55 that day.

BOHIN: Of platelets or blood?

MYERS: Of blood -- platelet transfusion. I wonder if it's possible to put up page 4818 so we can confirm this. It isn't on the list, Mr Murphy, but if it's possible.

I don't have it here.

If we just look at the top. Can you see 14 June, the low entry?

BOHIN: Yes.

MYERS: "Platelets, 11ml."

BOHIN: Yes. So she had low platelets on that day and they treated her with a platelet transfusion. So prior to receiving those platelets, her platelets would have been low enough that any sort of intervention would have caused bleeding.

MYERS: Yes. Just to be clear, you didn't know whether there had been a transfusion or what her platelets were?

BOHIN: No.

MYERS: Taking that, first of all. At 1.55, so about 10 hours before this, 9.5 hours, she had been given a platelet transfusion, hadn't she?

BOHIN: Yes.

MYERS: Right. Thank you. That's done to assist with clotting, isn't it?

BOHIN: It is and it's often given because the baby's got an infection and the infection is consuming their platelets so the fact that she was given platelets then doesn't tell me what her platelet count was at the time the suction was carried out because it may well have dropped again.

MYERS: But you asked, so I was just establishing (overspeaking) done.

BOHIN: Yes, thank you very much.

MYERS: Let's move forward, please, then to 17 June, which is at page 4282. This is a note that goes over two pages.

The first page, let's have a look, and it's the bottom part of the page. Thank you:

"17/6/15. 12.30. Written in retrospect. ST4 Callaghan. Called into the room. Desat to 40s and previous episode of bradycardia. Desat improved slowly with Neopuff but sats still in 60s. ET tube removed. End blocked by old clot/secretion. Sats improved with bagging."

Perhaps we can just see what's over the page before I come back to that. I don't know if we're able to go to the page that follows. Thank you, Mr Murphy.

Continuing the note:

"Two attempts at intubation by ANNP Collins."

And it describes what happens on those two attempts and it is noted on the second one that the ET tube slipped before it was secured. Two attempts by the doctor making this entry. And Dr Callaghan describes how this was done:

"First attempt inserted. Pulled back to 6.5 centimetres at the lips as secured 6 at the lips this morning but tube dislodged."

Do you see that, Dr Bohin?

BOHIN: Yes.

MYERS: "Second attempt successful. 2.5 centimetres ET tube secured at 7 centimetres at the lips. 8 centimetres..."

What's that word, can you help with that, "8 centimetres at the"?

BOHIN: Clamp.

MYERS: "... clamp. Initially slightly quiet (inaudible) air entry on..."

Is that the left?

BOHIN: Left.

MYERS: "... left when connected to the ventilator, but ET had been pushed in and was 5 centimetres at lips and 9 centimetres at the clamp. ET pulled back to original position and re-secured at 8 centimetres at the clamp, 7 centimetres at the lips. Air entry improved. OFC 19.7..."

What does OFC mean there, could you help?

BOHIN: The head circumference.

MYERS: "... without hat on."

Then:

"Chest X-ray. Review tube positions with X-ray."

Dealing with what we have on that page first, at this stage [Baby G] is still a very small baby, isn't she?

BOHIN: Yes.

MYERS: Do you know from what's here whether there's any amount of sedation at the time she was being intubated or do you not know?

BOHIN: I can't remember, but I would imagine if she was -- this wasn't a fresh attempt at intubation, it was a re-intubation because of a blocked tube so I would imagine that she was on sedation at that stage, although I can't confirm that, but it would be unusual for her not to be.

MYERS: Even in those circumstances, and small as she was, it appeared that the tube moved position even after it had first been put into her; is that correct?

BOHIN: With these attempts or the previous one? The previous tube was removed because she was desaturating and they removed the tube and there was a clot at the end of it, so she needed to be re-intubated, and it looks like the first doctor tried and was unsuccessful. The second doctor tried and the tube was dislodged. The second doctor tried again, was successful, but then subsequently the tube slipped in a bit further than it should have done and these tubes are, in this case, only 2.5

millimetres wide, and they go into the trachea and then they're secured at the lips and they're secured by a clamp, which should stop it moving backwards and forwards, because it would be easy to come out but if it goes in too far it tends to go down into the right lung preferentially, just because of how the anatomy is.

And if that happens, when you listen to the chest, rather than hearing air entry the same on both sides, you hear loud air entry on the right and reduced air entry on the left, which is what that doctor describes, because the tube had slipped down too far.

Once they pulled it back -- it had gone down to 5 centimetres at the lips, so once they pulled it back the air entry was equal again. So that would cause a baby to destabilise because you're then only ventilating one lung.

MYERS: What we're looking at on that page shows one incidence where the tube it had dislodged and another when it had slipped in; is that right?

BOHIN: Yet.

MYERS: And that is something that can happen quite naturally without anyone making that take place, it can just happen with a little baby's on an intubator, can't it?

BOHIN: Well, not really, because this baby's likely to have been (a) sedated and on the previous air entry -- on the previous things we looked at the baby was actually paralysed, so I'm not sure on this occasion whether the baby's on sedation or paralysed, because if she were then there would be -- if people had secured the tube correctly with the clamp there would be no reason for the tube to move in because it should be fixed and firm as the baby's not moving about to dislodge it herself.

MYERS: But what we do see is, whatever's happened, there is movement of the tube in that baby even when sedated, isn't there?

BOHIN: It appears so, yes.

MYERS: All right.

MR JUSTICE GOSS: Just before we leave that, you said these tubes are 2.5 millimetres.

BOHIN: Wide.

MR JUSTICE GOSS: Wide:

"Second attempt, successful. 2.5 centimetres ET tube."

BOHIN: Ah.

MR JUSTICE GOSS: That puzzled me when I saw that.

BOHIN: That's a typo. They're millimetres.

MR JUSTICE GOSS: That's not a typing mistake, it's a writing mistake?

BOHIN: They're like a small straw. It's 2.5 millimetres.

MR JUSTICE GOSS: We have seen one in fact during the course of the trial. That was just a mistake by the author of the note?

BOHIN: Yes.

MR JUSTICE GOSS: It should say:

"2.5-millimetre ET tube secured at 7 centimetres at the lips and 8 centimetres at the clamp"?

BOHIN: That's correct. The length is in centimetres but the width of the tube is in millimetres.

MR JUSTICE GOSS: Exactly. It's an easy mistake to make when you're writing a note. There we are. Just so there is no confusion.

MR MYERS: That would be an enormous tube (overspeaking) --

MR JUSTICE GOSS: It just didn't make sense when that was being read and when I heard the doctor say 2.5 millimetres I realised that should be just highlighted in case anyone else had spotted it as well.

MR MYERS: Absolutely. That's what I wanted to ask about the tubes and movement of the tubes. Can we just go back then to the beginning of the note and let me just return to that. So back to the page before, Mr Murphy, if you would, please.

Just that note that we have there. Again another instance of [Baby G] desaturating, correct, Dr Bohin?

BOHIN: Yes.

MYERS: When the ET tube was removed a clot and secretions on the end of the ET tube, isn't it, which is -- that's something you

might expect to find on an ET tube once a baby has been intubated, isn't it?

BOHIN: It would be unusual to find clots. You quite often -- if the tubes have been in a long time, very often they get coated with just natural secretions from the lungs and because they're so small it doesn't take much to occlude the lumen with the secretions. But it would be unusual to have a tube blocked by a clot unless there was ongoing bleeding with -- as a consequence of low platelets or a clotting disorder or from a previous pulmonary haemorrhage. You wouldn't normally find blood in the trachea.

MYERS: But as it happens with [Baby G] on this occasion, the fact is, as recorded here, the end was blocked by an old clot, wasn't it?

BOHIN: Yes. That's what it says, yes.

MYERS: But her sats improved with bagging, so that's with the Neopuff and bagging?

BOHIN: Yes, because they'd taken the ET tube out so it had to be with a Neopuff.

MYERS: Right. Will that be, from what you can see here, because air wasn't going through the ET tube because of the clot, so once it was taken out and she was given oxygen with the Neopuff and bagging, she did improve?

BOHIN: Yes. She desaturated because the ventilator was unable to push gas into her lungs because of the clot or secretions, a mixture of both, at the end of that tube.

So if you're not ventilating then you will desaturate.

So that's a very sudden thing. That's a very sudden event.

MYERS: Thank you. I'm going to move forward to 19 June now.

Page 4536, please, Mr Murphy. It's a nursing note.

Again, we're getting familiar with the format of the Arrowe Park notes. We can see the time and date on the right-hand side, 19 June 2015 at 19.46, and if we just go down to the progress part, please, and we can see that:

"Fairly stable day. Ventilation unchanged. Has had several desaturations without bradycardia requiring oxygen. Large oral secretions. Small to moderate ET secretions. Slight pink bloodstained secretions at last suction."

Do you see that?

BOHIN: Yes.

MYERS: "Gases good."

So just putting to one side the desaturations, the slight pink bloodstained secretions at the last secretion, they could be caused because of ongoing suction; is that correct?

BOHIN: Yes.

MYERS: They could be caused because of possible the tubes irritating [Baby G]'s throat; do you agree?

BOHIN: No. I think it could be due to the suction -- the action of suction by a nurse. It maybe due to the fact that her platelets -- I don't know what the state of her platelets or her clotting was that that stage, but not the fact that the ET tube is just -- merely the fact that it's there, no.

MYERS: Is it possible for there to be slight pink bloodstained secretions from some source within oropharyngeal area or the trachea not necessarily caused by suction but just something that happens in the course of the baby being treated?

BOHIN: You can get it -- if you're in heart failure you can get pink-stained secretions, but she wasn't in heart failure, so --

MYERS: I wasn't suggesting that.

BOHIN: No, no, you asked if there were other causes and that's a natural cause where you can get pink-stained secretions.

MYERS: And if a baby has infection, can that cause bloodstained secretions?

BOHIN: Not in and of itself, no.

MYERS: All right. Anyway we have pink bloodstained secretions and you would put that down to suction, would you?

BOHIN: No, I'm saying suction can be a cause --

MYERS: Right.

BOHIN: -- but I don't know in her case whether that was the cause but it can be a cause.

MYERS: Thank you.

Next, please, 29 June, so about a month now into [Baby G]'s life, page 4314, Mr Murphy. It's the bottom half of that page. I might need your assistance here with interpreting some of this, Dr Bohin. An entry at 4.20 in the morning.

BOHIN: "Asked to review by staff nurse. Desaturation. Increased oxygen [something] 23 plus 6. Now day 30. The corrected gestation is therefore 28 weeks [that's 28/40]. Bradycardia to 65 beats per minute. Problems: prematurity (inaudible) RDS. On DART."

That's a regime of steroids for babies who are effectively stuck on a ventilator. It's a very prescribed dose of steroids given to babies to try and get them off the ventilator. It just shows you how sick she has been from a breathing point of view:

"Hypophosphataemia [so her was phosphate low]. Thrombocytopaenia [which means her platelets are low]. PDA..."

Which is a patent ductus arteriosus, which is an additional blood vessel that babies have when they're inside their mum's womb, that usually would close in a few days after birth, but in premature babies quite often stays open.

MYERS: We see she's on the ventilator, is that?

BOHIN: Yes. She is on SIMV ventilation, so synchronised intermittent mandatory ventilation, so is not on the oscillator anymore. And it gives you the ventilatory pressures, which are moderate.

MYERS: Is this a more mild form of ventilation from the oscillatory ventilation?

BOHIN: It's standard. I would call that standard ventilation.

MYERS: "Saturation down to 50%."

BOHIN: "Down to 50%. Required oxygen increased to 80%."

She was in 60% oxygen before and in order to treat her desaturation she required the oxygen to go up to 80%.

MYERS: And then the examination?

BOHIN: For the examination, they've kind of drawn a schematic diagram of the thorax with the lung fields and it just says:

"Decreased air entry right base."

I don't know if that says -- yes:

"Squeaky auscultation on the left. Staff nurse suctioned. Fresh blood on suction tube. Looking pale. Heart sounds, number 1, number 2."

And she's got a loud murmur which would be consistent with the PDA, which is item number 5 on the sheet:

"Chest X-ray requested. Contacted the specialist registrar. Will come to review. Pressure on ventilator increased to 18/5 from 18/4."

MYERS: So just looking at that, we have desaturation down to 50%, albeit on a less invasive form of ventilation at this time, don't we?

BOHIN: Yes.

MYERS: And she's about a month old. And also on this entry fresh blood identified when suctioned?

BOHIN: Yes.

MYERS: We can continue with what's said in the clinical notes at about this time, just following on from this, which is at page 4315. Following on from these notes. We can see ST4 Flanagan. It is this page and over the page:

"05.16. Bleeped at the time of event but busy on paediatric ward. History and events noted. Fresh blood in ET on suction. Significant desat prior to this requiring 50..."

Is that 50 --

BOHIN: "Requiring FiO2", so the fraction inspired oxygen content is 80%.

MYERS: "Chest X-ray..."

Is that "reviewed"?

"Hazy changes right mid and lower zones."

Then it says:

"Diagnosis: probable pulmonary haemorrhage."

BOHIN: Yes.

MYERS: "Attempt venous access and coag. Vitamin K. If cannot get another cannula, give oral. Keep PEEP at 6."

The bloods are sent off. Just go over the page, please --

BOHIN: And an ultrasound of the head.

MYERS: And it continues here at 5.50 on the daily review.

I just want to go to where it says "problems" if we could:

"Prematurity. Probable pulmonary haemorrhage. Hypoglycaemia. PDA. Hypophosphataemia."

We had seen at the page before "diagnosis: probable pulmonary haemorrhage" and it says "probable pulmonary haemorrhage" here. That's, first of all, because we're dealing with fresh blood rather than something mixed in with a secretion, isn't it?

BOHIN: Yes. And it's in -- on the previous problem list, which is omitted from this list, it says thrombocytopaenia, which is low platelet count, which would predispose you to bleeding spontaneously.

MYERS: But just pausing there, yesterday Dr Evans said that pulmonary haemorrhage is a killer. And I took issue with that. Pulmonary haemorrhage is not necessarily a killer, is it?

BOHIN: In the majority of times it is, certainly in a baby this fragile, because with a pulmonary haemorrhage, rather than just having less than a millilitre of bloodstained secretions or a small amount of bloodstained secretions, with a frank pulmonary haemorrhage you normally got lots and lots of fresh blood coming up the trachea, such that you cannot suck it out quick enough, and it's that that means that you cannot resuscitate these babies. So if this was a pulmonary haemorrhage, and I don't know that it was, in the face of low platelet count it was certainly very mild.

MYERS: Yes. It doesn't appear that anybody, as we can see from the notes, is reacting to it as if it's about a killer, does it?

BOHIN: No, but she's already seriously ill at this point.

MYERS: But it simply isn't right to say that a pulmonary haemorrhage is inevitably a killer, is it?

BOHIN: It's not inevitable but in a baby of this size and gestation, it --

MYERS: And we see --

MR JUSTICE GOSS: In a baby of this size and gestation?

BOHIN: It would usually be if it was a frank pulmonary haemorrhage.

MR MYERS: What we do have is an identified instance of [Baby G] bleeding --

BOHIN: Yes.

MYERS: -- not because of suction, but bleeding for whatever reason?

BOHIN: Yes.

MYERS: Next, I would like to go to page 4601, which takes us to 1 July. I just have a handful more entries to deal with. An entry in the nursing notes at 19.01 and the nurse notes the following:

"[Baby G] has had frequent episodes of desaturations all requiring stimulation and increased oxygen. All blood gases stable, repeat chest X-ray. Reported as significant evolving lung disease. Echo..."

Is that echocardiogram?

BOHIN: Yes.

MYERS: "... performed by consultant Oliver Rackham. Small PDA..."

Did you say that was patent ductus arteriosus?

BOHIN: Yes.

MYERS: "... noted. Desaturations diagnosed due to poor lungs. [Baby G] also appears in pain, therefore paracetamol and morphine increased."

And the glucose remains stable.

So at this stage now, into being about a month old, the desaturations with [Baby G] continue, don't they?

BOHIN: Yes.

MYERS: Next I'm going to go to page 4702, which is jumping forwards some way because it's 31 July 2015, so we are moving forwards almost a month. 5.59. [Baby G] is about 2 months old at

this point now. The nurse enters on the entry at 5.59 in the morning:

"Three desaturations observed to 60% overnight. Not always requiring increased oxygen. Mostly come up self or with adjustment of CPAP mask or giving a dummy. Desaturation, fleeting and occasional, after feed to mid-80s seen."

Sorry, I didn't read that very well:

"Abdomen looks full. Mum measured baby's tummy this AM and states her abdomen is 30 centimetres, usually 26 to 27 centimetres. OGT aspirate: 10ml of feed. 5 am feed omitted. Gas satisfactory. Eyes/mouth cleaned as needed. Nares..."

What is nares?

BOHIN: Nostrils.

MYERS: Sorry:

"[Nostrils] satisfactory."

All right. This is an entry a little under 2 weeks before the move to the Countess of Chester and we now know [Baby G] is 2 months old. So at this point [Baby G] is still or is marked as desaturating, isn't she?

BOHIN: Yes, I think I read that when I was speaking to Mr Johnson as she was having self-correcting desaturations and, over the course of a whole night shift, she appears to have had three over the course of a whole night shift and I also mention that the 10ml aspirate, but that was the only large aspirate during that time.

MYERS: Yes, all right. There was an aspirate and it appears that her stomach had distended after the feed, is that correct, because it says:

"Abdomen 30 centimetres, usually 26 to 27"?

BOHIN: With all respect to [Baby G]'s mum, this was measured by her mother, and I would -- it depends on where you measure the abdomen from, whether you measure at the same point each time. So I'm not sure if that's an accurate reflection. It may represent a distension.

MYERS: We have a coincidence of feeds still in the stomach, it seems, 10ml, and desaturation accompanying it, don't we?

BOHIN: Yes.

MYERS: And that meant that the next feed, or if it is the next feed, the 5 am feed, was omitted?

BOHIN: That feed was omitted and then the following feeds continued without problem.

MYERS: All right. Could we go next please to page 4748, which is the same day but a little later at 17.40.

The actual entry we're looking at, if we can scroll down, please, is at 31 July 15 at 17.40.

MR JUSTICE GOSS: Yes. That's highlighted, I think.

MR MYERS: Ah, thank you.

We know that [Baby G] was discharged from Arrowe Park Hospital on 13 August and went to the Countess of Chester then. But that wasn't the first time that attempts had been made for her to be transferred to the Countess of Chester, was it?

BOHIN: No.

MYERS: On this occasion here we have, 31 July 2015:

"[Baby G] transferred to transport incubator..."

Pausing there, that's a particular incubator designed to do what it says, assist in transporting a baby from one establishment to another?

BOHIN: That's correct, yes.

MYERS: So transferred to the transport incubator:

"CBG..."

Is that capillary blood gas taken?

BOHIN: Yes.

MYERS: And satisfactory:

"Handover given. [Baby G] then started to desaturate to 42% with associated bradycardia to 70s."

That's a significant drop in heart rate, isn't it?

BOHIN: Yes.

MYERS: "Neopuffing required. Decision made by consultants not to transfer to Chester. [Baby G] now back in incubator, parents aware."

So what happened there was [Baby G] was due to be transported and then, for whatever reason, there's a significant but profound desaturation to 42%, and her heart rate drops, and the decision was taken that it wasn't the right time to transfer her to Chester; is that correct?

BOHIN: That's correct but she must have recovered because they immunised her the next day, so she must have recovered from that.

MYERS: Yes.

BOHIN: Transporting babies from one hospital to another is fraught with difficulty and babies do not travel well and sick babies do not travel well. So I think that was a wise decision. If the baby had desaturated in that way on transfer -- by the mere action of transferring from one incubator to another, the baby was unlikely to travel well that day, so that was the right decision, not to transfer her.

MYERS: Pausing there, we have seen already in the last entry that at about 6 o'clock in the morning on the same day there had been the three desaturations observed around about the time of the feed.

BOHIN: Well, she was having self-limiting desaturations with feeds all along. That's quite a normal occurrence. If they're self-limiting and babies correct themselves, that's not a problem.

The three desaturations happened over the course of the whole night, they weren't all altogether in one batch, they were over a long period.

MYERS: She displayed a tendency to desaturate, didn't she?

BOHIN: She had desaturations associated with feed, which is absolutely standard for a baby of that gestation and age.

MYERS: And then at 17.40 she had quite a profound desaturation --

BOHIN: Yes, she did.

MYERS: -- when she was due to be transported?

BOHIN: Yes.

MYERS: You say she was due to be immunised the next day and earlier in the questioning from the prosecution you used the fact -- it was described that a baby about to be immunised was a good sign of how fit and stable they are because they're going to receive their immunisations.

BOHIN: Yes.

MYERS: But on this occasion she was due to be immunised, but that still didn't mean that there weren't events that couldn't lead to a profound desaturation?

BOHIN: No, but desaturations would occur throughout the time she would spend on the neonatal unit. Neonates are prone to desaturate for all manner of things. This was a significant one, but she clearly must have recovered or they would not have immunised her the next day. So yes, she was still very young, she was still very vulnerable, she was prone to all sorts of complications of her prematurity, but at that stage they clearly felt she was well enough to immunise her, regardless of what had happened the day before, as she had recovered from that.

MYERS: Yes. But again, so we can be clear, when we began to go through these notes, Dr Bohin, you identified perfectly accurately the desaturations we looked at were linked to a time when she was very, very small and receiving a higher level of intensive care.

BOHIN: Yes, but I also said when babies are older the causes of desaturations are different and they are here.

MYERS: Throughout the whole of her history she demonstrates a propensity, a tendency to desaturate depending on the circumstances, doesn't she?

BOHIN: So would any baby, any premature baby.

MYERS: And this one is quite a profound one, isn't it?

BOHIN: Yes.

MYERS: And if we go next, please, to 4 August, so about a week before she was transferred, page 4393. It's a short entry, the bottom of that page.

Look at the bottom of the page, 4 August, 8 o'clock.

Daily review by L Jones. We've got the various statistics at the top for age, day 66, it records the birth weight, the current weight, 1.19 kilograms.

30 grams -- is that the weight that's been put on?

BOHIN: An increase of 30 grams in a week.

MYERS: It sets out the problems: preterm -- CLD?

BOHIN: Chronic lung disease.

MYERS: On CPAP. Sub-optimal weight gain. And?

BOHIN: "Raised CRP." She had an infection at that point.

MYERS: "Ventilation: remains on CPAP."

And it sets out what the pressures have been:

"Blood gas is satisfactory."

And again it records here:

"Has been having frequent desats and bradys overnight. Down to 45%. Some apnoeas this morning requiring stimulation."

BOHIN: But she'd been screened for an infection the day before because she'd become unwell the day before and was screened for an infection and started on antibiotics because of the increase in desaturations and bradycardias on the 3rd.

MYERS: We know that when, a little more than a week later, [Baby G] is transferred to the Countess of Chester Hospital we've heard how she was stable on CPAP at that point.

BOHIN: Yes.

MYERS: We can also see over the months that have led up to that she was prone to desaturate, sometimes profoundly, depending on the circumstances, wasn't she?

BOHIN: Yes, but on this occasion it was because she had an infection. But they continued the feeds, the feeds were continued. She still was -- continued to be enterally fed despite that.

MYERS: She was on this occasion. We have seen another occasion where they suspended the feed, didn't we, after the desaturation --

BOHIN: One feed, just one.

MYERS: But the fact is her desaturations are not linked purely to being a very small baby just born in a high level of intensive care, are they?

BOHIN: No. Early on in her life they were and, as I explained earlier, once you move out of that period where you're critically ill and receiving lots of intensive care, the causes of desaturations change slightly and it's very common for babies to desaturate after or in between feeds. And as long as they're self-limiting, as long as the babies correct themselves and don't go on to require intervention, they're usually ignored because they are so common they're usually ignored. If they need intervention then infection needs to be considered, which is what happened on 3 August, the day before this entry.

MR MYERS: Thank you. Well, I'm going to move next to the events of 7 September, my Lord (overspeaking) --

MR JUSTICE GOSS: We'll have our break.

MR MYERS: I should say, thank you, Dr Bohin, for assisting with that.

MR JUSTICE GOSS: Thank you. Our usual ten-minute break then, please.

(11.59 am)

(A short break)

(12.09 pm)

MR MYERS: Dr Bohin, I'd like to go to the first report that you wrote, it's the one dated 28 March 2019, and go to paragraph 6.10, please.

BOHIN: Yes.

MYERS: I'm going to remind you what it says at paragraph 6.10 -- and you're dealing with the feed that we're looking at now on 7 September:

"On 6 September, [Baby G] took a bottle feed of 45ml at 23.00. On 7 September, she was given 45ml of milk by NGT at 02.00. She was asleep. The NGT was recorded as being aspirated prior to this feed. This was (a) to check the NGT was in the correct place prior to giving the feed and (b) to check there was not a large amount of undigested milk remaining from the previous feed, which might indicate a developing problem."

That's what it says at paragraph 6.10, isn't it?

BOHIN: Yes.

MYERS: Then in your opinion and observations at paragraph 7.4, the same point really but what you say is this:

"The feeding chart shows [Baby G] was given a bottle feed at 23.00 on 6 September 2015. This was tolerated. Her next feed was due at 02.00 on 7 September 2015. She was asleep. The NGT was recorded as being checked prior to this feed. At this check no large residual volume of milk was found in the stomach, ie it was empty. 45ml of feed was given."

That's what you say there, isn't it?

BOHIN: Yes.

MYERS: An assumption that you worked on at the time of your report was that the contents of [Baby G]'s stomach had been aspirated by the nurse, [Nurse E], who was about to give the feed at 2 o'clock? That was an assumption you worked on, wasn't it?

BOHIN: It was because that's what nurses normally do.

MYERS: Yes. We've heard [Nurse E] indicate that that isn't what she would have done for [Baby G] on this occasion.

You have heard that evidence, haven't you?

BOHIN: Yes, I have.

MYERS: What you don't make any reference to in the report, but what you have told us about in your evidence yesterday and today, is that you say the stomach must have been empty because of the pH value.

BOHIN: Yes.

MYERS: That's something which you are telling us, I'm going to suggest, because you've heard the evidence of [Nurse E] and it's an alternative way of being able to say the stomach must be empty. That's what you've done, you have switched to the pH as a way of being able to say that.

BOHIN: That's not correct.

MYERS: When you gave your evidence yesterday, I just want to -- help us with this. You were asked a question and it was said that you had been listening to and watching the evidence via the video facility.

BOHIN: Yes.

MYERS: Just so we can understand the arrangement, you're obviously entitled as an expert in this case to see the evidence that witnesses give. You're entitled to do that, absolutely, there's no criticism of that. That's the process. And you do see the evidence in the case, don't you?

BOHIN: Yes.

MYERS: So for example, what the witnesses say, you see, albeit not in this courtroom but in another courtroom or from a CVP location elsewhere?

BOHIN: Yes.

MYERS: It follows, for example, if Dr Evans gives evidence, you can hear the evidence that he gives, can't you?

BOHIN: Yes, I can hear everybody's evidence.

MYERS: And whenever you have come to be asked questions in cross-examination by me, you will have heard what Dr Evans' evidence was and the questions he was asked, won't you?

BOHIN: Yes.

MYERS: Yesterday I raised with Dr Evans that he had worked on the basis that [Nurse E] had aspirated the stomach contents when he wrote his reports. I put that to him.

You will have seen those questions.

BOHIN: Yes.

MYERS: I'll leave his answers for now, but those were the questions. And I've just asked you that you worked on that assumption and you've accepted you did. And yesterday, Dr Evans said that he was working on the fact that the pH was acidic now as the basis for saying the stomach must have been empty. Did you hear me asking him about that?

BOHIN: Yes.

MYERS: And you're doing the same thing well, aren't you, you're working on the basis that the stomach was acidic as a basis for saying it was empty?

BOHIN: Yes.

MYERS: Can I ask, just so we understand, is that something you will have discussed with Dr Evans before giving this evidence?

BOHIN: No, it absolutely is not. I was asked to do a supplementary report regarding [Baby G]'s feeding, the final report from November of this year, and during that I reviewed all of [Baby G]'s feeding charts from the Countess of Chester, both admissions, and the Arrowe Park Hospital, both admissions. So actually I had gone through her feeding charts in great detail and could see what the pHs were and compared them from Arrowe Park to the Countess of Chester, where one group of nurses regularly aspirated and the other group didn't regularly aspirate. So no, this is not -- my opinion on this has not come as a result of a dialogue with Dr Evans.

MYERS: Dealing with the question of pH, the fact is that the stomach pH in terms of the acid in it, what would that be, the acid pH of the stomach? I'm going to suggest it's a lot lower than 4, isn't it?

BOHIN: Sorry, I'm not -- do you mean --

MYERS: The natural pH of an empty stomach, the acid in it, what would it be?

BOHIN: In a baby it can be anything between 3.5 and 5.

MYERS: Out of interest, in an adult does it go lower than that?

BOHIN: I have no idea.

MYERS: So 2 or 3, is that too low for a baby in any situation?

BOHIN: I don't ever recall seeing a nurse getting a pH of 2, no. I don't have -- I have never worked in adult practice, so I have no idea about adults.

MYERS: As for the pH value, it is possible, isn't it, to get a pH like the one we see in this case and there still be milk contents in the stomach? That's possible, isn't it?

BOHIN: I don't think it is. I think the stomach was empty.

MYERS: Right. I'm going to suggest it depends a little bit, for instance, on exactly whereabouts the sample in the stomach has come from.

BOHIN: Yes, it does vary depending on where the tip of the nasogastric tube is, but we don't know where that is.

MYERS: No, we don't. But do you agree we can't discount the possibility there is milk in the stomach at the time this was aspirated?

BOHIN: Yes, I think we can.

MYERS: And I'm going to suggest if that was a basis for saying there was no milk, you would have said that before you say it in your evidence, Dr Bohin.

BOHIN: Well, I've said the normal practice is for nurses to aspirate the tube and so what I have written is that the tube was aspirated because that would be normal practice for any other nurse I've worked with. That clearly wasn't the practice at the Countess of Chester or not with [Nurse E] in any case.

MYERS: And so I am making it clear what I suggest to you, that in now turning to pH as being a basis for saying the stomach was empty, that's something you've done because you realise you cannot support what you want to say off the back of what [Nurse E] says.

BOHIN: No, that's absolutely not the case.

MYERS: Do you agree, notwithstanding your most recent report, that in none of the reports you have provided do you say that the pH we have on the feeding chart shows the stomach was empty?

BOHIN: No, I haven't mentioned it in any of my other reports.

MYERS: Right. I'm going to ask you about infection next, please.

Do you agree, or disagree by all means, that CRP, the C-reactive protein reading, will peak between 24 and 48 hours after the infection commences?

BOHIN: I have no idea. It changes. But I don't think there is an absolute cut -- it increases, but I don't think there's an absolute cut-off. I don't think anybody knows.

MYERS: But isn't it a general understanding that there's a 24 to 48 hour (sic) to peak with CRP?

BOHIN: That's general understanding but I don't think that rule can be rigidly applied. You know, nothing suddenly happens at 48 hours to say you haven't got an infection or you haven't got an infection.

MYERS: It may not be rigidly applied, I'm not going to dispute that with you, Dr Bohin, but the general rule is 24 to 48 hours?

BOHIN: Yes.

MYERS: In a given case it could be less or it could be more?

BOHIN: It could be.

MYERS: Thank you. We've seen the CRP readings for [Baby G] over the period from 7 September onwards. She is a baby who would be prone to infection, isn't she?

BOHIN: Yes.

MYERS: And it can't be said precisely when any infection has started from the CRP readings, can it?

BOHIN: No.

MYERS: The watery stool that was identified, and it's mentioned in Dr Ventress' notes, a watery stool is always going to be considered abnormal unless there's an explanation for why it isn't, isn't it?

BOHIN: No.

MYERS: Isn't it something that a doctor, for instance, would always want to take in a history from a patient as to whether the stools are loose or watery as an indication of whether there is any underlying problem?

BOHIN: I personally never ask if stools are watery. I ask if stools are loose. The consistency of the stool is important to note and whether there are any additional findings, like blood or mucus, but actually watery that's not something I ever ask.

MYERS: Well, a stool that's passed that is watery could be consistent with being unwell, couldn't it?

BOHIN: But it could also be normal.

MYERS: It could be, but I'm asking could it be consistent with being unwell?

BOHIN: It could be, but it could also be normal.

MYERS: In terms of an infection that [Baby G] had, it's possible that could have started after the time of the 2 o'clock milk feed?

BOHIN: Yes.

MYERS: It's possible that could have started before the 2 o'clock milk feed, isn't it?

BOHIN: Well, I think -- not if you're looking at your 48 -- the point you put to me before, where you'd suggested that the peak CRP was at 24 to 48 hours, because the peak CRP in this case was 50-odd hours after the event where [Baby G] had her major desaturation.

MYERS: Yes, it is, and it goes over a two-day period. But as you accept, it's not a precise figure, it could be more, it could be less?

BOHIN: Yes.

MYERS: And bearing in mind the period over which the CRP rises, it's possible, if it's due to an infection, that could have started before the feed, couldn't it? It's possible?

BOHIN: It's possible.

MYERS: You will suggest it started later?

BOHIN: Yes, I do.

MYERS: Right, okay.

The projectile vomiting that we see. I think you agree that babies may vomit for many reasons, Dr Bohin.

BOHIN: Yes.

MYERS: Forceful vomiting, first of all, you would say, am I right about this, is not common in a neonate?

BOHIN: No, it's not.

MYERS: If a baby is given too much feed, for whatever reason, that could cause forceful vomiting, couldn't it?

BOHIN: Yes.

MYERS: If a baby was given too much feed, I'm going to suggest accidentally, that could cause forceful vomiting, couldn't it?

BOHIN: Yes.

MYERS: Just in general with regard to the Countess of Chester Hospital neonatal unit, when you've reviewed this case, I just don't mean this case but the case generally, did you find there are times when nurses didn't aspirate before feeding?

BOHIN: Yes (overspeaking) --

MYERS: That was a problem, wasn't it?

BOHIN: Yes.

MR JUSTICE GOSS: Frequently, she said, but you spoke over her.

MR MYERS: I'm sorry.

MR JUSTICE GOSS: I thought you'd want to know that.

MR MYERS: Thank you, my Lord. I apologise for my enthusiasm to move on.

BOHIN: It may have been that they -- if they did aspirate, they didn't record it, but there are lots of omissions on the notes, yes.

MYERS: All right. With the question of gastro-oesophageal reflux, and I'm not going to take this beyond where we can get to on the evidence, I'm just asking what you say about the evidence, that is something that can be common in preterm babies, isn't it?

BOHIN: Very common.

MYERS: Very common. Is it something which can develop over time even if it isn't present at birth?

BOHIN: Yes.

MYERS: And is it something that can cause forceful vomiting?

BOHIN: It tends not to cause forceful vomiting. It tends to cause vomiting but the type of vomiting really depends on the age and the size of the baby. So in much older children, older neonates who get it, they're more robust, so their vomiting might be forceful, but in small babies it tends to cause lots of problems with small spits and possets, small vomits as opposed to forceful vomits.

MYERS: Thank you. Certainly as we are going to find out and as the jury will hear, when we move forwards from 7 September and we move to the events from the 21st and onwards, whatever the reason, we begin to see a more marked history of vomiting, don't we?

BOHIN: Yes.

MYERS: Right. As it happens, from your own review, even when [Baby G] was at Arrowe Park, gastro-oesophageal reflux was a consideration, wasn't it --

BOHIN: Yes.

MYERS: -- because you have seen that she was prescribed anti-reflux medication in early July 2015?

BOHIN: Yes.

MYERS: And although it isn't on the discharge summary from Arrowe Park, gastro-oesophageal reflux is noted as a clinical problem at the time of her admission to the Countess of Chester?

BOHIN: Yes, it was.

MYERS: Your view of 7 September is that whatever the position with gastro-oesophageal reflux, and correct me if I'm wrong, your view is that can't explain what happened?

BOHIN: That's my view, yes.

MYERS: Is it possible for gastro-oesophageal reflux to contribute to what's happened if there's any basis for finding it there?

BOHIN: No.

MYERS: But the 7 September can be due to overfeeding for whatever reason?

BOHIN: Yes.

MYERS: If [Baby G] suffers from an infection at that time, I'm going to suggest that is something that could contribute to a vomit if, for example, it interfered with her ability to digest a milk feed.

BOHIN: Infection does not present with projectile vomiting in the way that was exhibited by [Baby G].

MYERS: I'm not suggesting on its own, Dr Bohin, it would do.

But what I'm exploring is whether if there was an infection taking place that interferes with her digestion, and if she's overfed in those circumstances, that can make the reaction to it what we find here.

BOHIN: No, I'm sorry, I can't agree with that.

MYERS: So you discount infection?

BOHIN: Yes, at that stage. She had an infection later on, but at that stage, yes.

MYERS: Overfeeding, you accept, can be the cause of it?

BOHIN: Yes.

MYERS: And I'm going to suggest to you if she was given too much milk on top of milk that hadn't been digested, that could have caused the vomit that we find?

BOHIN: Sorry? Are you suggesting that if her stomach was full and she was given an excess of 45ml at that feed, so the combination of the whole lot?

MYERS: I'm not suggesting her stomach was full, but if there's already a quantity of undigested milk in her stomach, whatever that is, and she's given 45ml on top of that, that could cause this?

BOHIN: (overspeaking) no, I can't agree with that because I think her stomach was empty, so an excessive volume of milk in her stomach caused her to have that projectile vomit, but I do not agree that there was milk in her stomach at the time she was given that feed.

MYERS: I've dealt with where and how we come to dispute that with you, I'm not going to repeat that.

But if there is milk that goes in on top of other milk, as it happens, that could cause this if there was milk already present, couldn't it?

BOHIN: If there was, but that's very -- that's --

MYERS: You don't accept that there was?

BOHIN: No.

MR MYERS: Right. Thank you, Dr Bohin.

Re-examination by MR JOHNSON

MR JOHNSON: Just a few questions, please, Dr Bohin. It has been pointed out that you hear the evidence of all the witnesses, including Dr Evans. Are there any other doctors in the courtroom next door?

BOHIN: Yes, there are.

JOHNSON: Who are they?

BOHIN: Dr Hall.

JOHNSON: And who is Dr Hall?

BOHIN: He's the neonatal expert for the defence.

JOHNSON: Yes, thank you.

MR JUSTICE GOSS: Just so that there is absolutely no mystery about this, expert evidence, about which I shall give you a legal direction, comes from people who have specialist knowledge. They can only express any opinion when they hear all the evidence. They can read all the materials pre-trial, but then they hear the evidence as well. So it's absolutely standard practice for all experts to be able to hear what you hear by way of the evidence. Then they can express their opinion on the evidence that you hear. All right?

So there's no mystery about this. So all the experts are hearing everything -- or any experts who may be going to give evidence are hearing everything and Dr Bohin, as you know, is coming back again and again and again to give evidence, so she hears it all the time. As you know, but the jury won't have known this, but I'll give you a direction about this.

Mr Myers made this perfectly plain.

MR MYERS: I didn't suggest there was anything wrong with that arrangement, I just wanted everybody to be aware of it.

MR JUSTICE GOSS: It's just that is the fact because that's how it goes. So Mr Johnson is now eliciting the fact that the defence expert is listening to all this, as any expert would.

MR JOHNSON: You were asked about acid being different in different parts of the stomach. I'd just like you to clarify that, please. You told us that so far as the standard term baby is concerned, the stomach is about the size of a plum, to give us the idea of the area that we're dealing with. Where does the NGT have to be to be able to aspirate any stomach contents? Whereabouts in the stomach?

BOHIN: Well, it needs to be in the body of the stomach. So the stomach is -- it kind of lies at an angle and the nasogastric tube comes down the gullet and you would hope that the tip of it would be in the body of the stomach, so in the bottom of the sort of bowl, really.

JOHNSON: Yes. So if we think of the stomach as in effect a plum-shaped object --

BOHIN: Yes.

JOHNSON: -- on an angle?

BOHIN: Yes.

JOHNSON: So there is a part of the bottom of the plum that sits much lower than everywhere else. Can we apply common sense here, that the stomach acid would, under the force of gravity, if a baby is prone, would it be, in effect, at the back of the stomach --

BOHIN: Yes.

JOHNSON: -- in terms of whether the baby was standing up?

BOHIN: Yes.

JOHNSON: Okay. Which parts of the stomach have different concentrations of acid?

BOHIN: I'm not sure there's any research for neonates, actually. I think it's based on adults where there are certainly some areas have more acid-producing cells than others, but that isn't where the tip of the nasogastric tube would lie, because obviously those areas that produce more acid, that fluid then, by gravity, pools in the bottom of this bowl where you would hope the tip of the nasogastric tube is. If the nasogastric tube isn't there, and it's midway where there is no fluid, you clearly can't aspirate any fluid.

JOHNSON: Right. So now you have given us that explanation if, as we know, [Nurse E] aspirated some liquid --

BOHIN: Yes.

JOHNSON: -- would that liquid necessarily, because of the physical characteristics of what we're talking about, have included milk if there was milk in there?

BOHIN: Yes.

JOHNSON: Yes.

BOHIN: And nurses would normally write that down. And in many other entries with [Baby G], of which obviously there are a huge number relating to feeds, nurses would write "clear aspirate" or "milky aspirate" or "undigested milk aspirate", and there's

nothing, only pH 4. I think if milk was there, it would have been noted.

JOHNSON: Yes, and if there was a large quantity of undigested milk as has been suggested, what effect would that have had on the pH?

BOHIN: The pH of milk is neutral, so 7, so it would have neutralised or buffered whatever acid was in the contents of the stomach. So that would have raised the pH so that it would have been 5 or 5.5 or 6.

JOHNSON: You were asked about the peak of the C-reactive protein reading and if Mr Murphy can help us, please, I wonder whether he can show us J7291. You spoke of the peak having occurred much later at Arrowe Park?

BOHIN: Yes.

JOHNSON: Is this one of the sets of data for the blood tests?

BOHIN: Yes, it is.

JOHNSON: And can we see the C-reactive protein reading in that list of data?

BOHIN: Yes, it's 218, it's at the bottom.

JOHNSON: It actually says "C-reactive protein: 218". The time of that reading, please?

BOHIN: 07.23 on 8 September.

JOHNSON: On 9 September.

BOHIN: Sorry. I beg your pardon, on 9 September.

JOHNSON: Just to put that into context, [Baby G]'s projectile vomiting and collapse was at about 2.30 in the morning of 7 September. So if we go to 2.30 on the 9th, that's 48 hours. And this is another 5 hours, so about 53 hours after the collapse?

BOHIN: Yes.

JOHNSON: And the proposition that was being put to you on behalf of Lucy Letby was that it peaks at anything between 24 and 48 hours after the onset of the infection.

BOHIN: Yes.

JOHNSON: And having looked through the records, is this the peak so far as you could tell?

BOHIN: This is the peak. After that, it goes down quite sharply.

JOHNSON: If one applies the 24 to 48 hours theory as was being suggested to you on this, does that suggest the onset was before or after the problems?

BOHIN: After.

JOHNSON: Yes. We know from the evidence that at about 6.15 on the morning of the 7th, 100ml of either air or liquid, or a combination, was aspirated from [Baby G]'s stomach.

BOHIN: That's correct, yes.

JOHNSON: Can that be accounted for by infection?

BOHIN: Not in my opinion, no.

JOHNSON: Well, you were also asked about a later, more marked history of vomiting, but I'll return to that when you give your evidence about the later incident concerning [Baby G]. So I've not forgotten about that, but I'll deal with it in that context rather than now.

Does your Lordship have any questions?

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

Thank you, Dr Bohin. That completes your evidence at this stage. The usual conditions apply: do not discuss anything about -- anything to do with this with any other witnesses. Thank you very much.

(The witness withdrew)

MR JUSTICE GOSS: Mr Astbury.

MR ASTBURY: Before we move on to the second and third events and off the events of 7 September, I'm going to read part of a statement which relates specifically to the precautions that Dr Ventress described in the early hours with the ventilator when [Baby G] was collapsing at that stage.

My Lord, I can pass copies up. It was anticipated to come later in the week but we thought now was a better time before we move on.

MR JUSTICE GOSS: That's fine. Thank you very much. I'm very grateful for that.

All right. So this is, as you well know, agreed evidence that's being read to you. The significance of it, for you to decide.

Witness statement of MR STUART ECCLES (read)

MR ASTBURY: Thank you, my Lord.

In a statement dated 19 April 2018, it's from a man named Stuart Paul Eccles and he says as follows:

"I am making this statement to the Cheshire Constabulary regarding the investigation at the Countess of Chester Hospital Foundation Trust between June 2015 and July 2016.

"I have been informed that particular interview was in reference to baby [Baby G], date of birth 31 May 2015. Particular dates have been specified to me, they are the 7 and 21 September 2015, as being relevant to the investigation.

"I have an HND in mechanical engineering, a foundation degree in medical equipment engineering and an honours degree in medical equipment engineering management. I started as a medical engineer and I progressed to senior medical engineer. About 18 months ago [so this is in 2018] I became the engineering manager. I have been working at the Countess of Chester Hospital for the past 18 years.

"In 2015 I was the senior medical engineer and provided the majority of engineering support for the unit. In respect of ventilators on the NNU, there are four. We have detailed history on all devices and nothing showing for the suggested dates."

Second witness statement of MR STUART ECCLES (read)

MR ASTBURY: My Lord, in the second statement, Mr Eccles goes on to expand upon that observation. The statement is dated 14 September 2021 and Mr Eccles says:

"I am the above named person and I am the engineering manager at the Countess of Chester Hospital and I have been asked by DC Birch of Cheshire Police to provide some details about ventilators used in the neonatal unit in 2015 and 2016.

"We had four ventilators within the NNU in 2015 and 2016 and these are detailed in a printed report which I produce as SPE4."

For the sake of completeness, I'll just ask Mr Murphy to put that particular document on the screen.

It gives the details of the four ventilators in use at that time.

He carries on:

"Neither the device or patient records show the location nor which device was being used by which patient to my knowledge.

"We hold a detailed service history on all medical devices, including maintenance and any repairs required, and our ventilators are very reliable. I have run a report for jobs raised against the ventilators in 2015 and 2016, which shows maintenance jobs (captured as PVP, performance verification procedure). There were four occasions that required consumables to be replaced and three malfunctions. I produce this report as SPE5."

Can we put that up, please?

There we have, my Lord, the printout of any maintenance taken out in respect of the ventilators or their consumables over the relevant period. It is in reverse date order so if we work up from the bottom of the page we can see beginning in -- almost in reverse order, we can see the dates running up from bottom to top. "Created" on the right. So beginning on 8 June, "completed" on the left, two central columns, 7 July.

There is then an explanation for what can be seen there from Mr Eccles:

"I have been asked whether any of the ventilators on the NNU failed or needed repairing or replacing on 7 September 2015 and, as shown in this report, neither of the two malfunctions reported were from 7 September. They were from 14 September and 13 November.

"I have been asked if it is possible that the malfunction on the 14th could have been the same ventilator that was swapped out on the 7th. I have been told that a doctor on the 7th said they'd changed a flow sensor and then swapped a whole machine and circuit. This is a user-rectified issue and the swapping of flow sensors and breathing circuit as a consumable is not unheard of. These details would not get logged on the assets' record or clinical engineering being informed. These are deemed disposable items.

"The fault reported from 14 September 2015 was a noisy solenoid during breath delivery. A replacement solenoid was required and fitted. A ventilator with a noisy solenoid would still function."

Just on that issue, that's the evidence from Mr Eccles on 7 September.

MR JUSTICE GOSS: Thank you.

MR JOHNSON: Can I recall Kate Tyndall, please?

MR JUSTICE GOSS: Yes, thank you.

MS KATE TYNDALL (recalled)

Examination-in-chief by MR JOHNSON

MR JOHNSON: Welcome back. Could you just identify yourself again, please?

TYNDALL: I'm Kate Tyndall, intelligence analyst.

JOHNSON: Thank you very much. You took us through, some days ago now, the sequence of events chart for [Baby G] concerning the events surrounding her collapse in the early hours of the morning of 7 September 2015.

I think, as we went through, you identified some corrections and, for the sake of the record, I'd be very grateful if you would just detail them for us in chronological order.

TYNDALL: Okay. So on slide 1, the name [Mother of Baby G] was missing before the surname [redacted].

JOHNSON: Yes.

TYNDALL: On slides 80, 84 and 85, there was a spelling mistake in the word and the word "retrospect" was spelt wrongly.

MR JUSTICE GOSS: Do we need -- I don't think we need to look at it. It's just a correction of a spelling mistake.

TYNDALL: Slide 196. The receiver of the text message should have said [Nurse A] and it was showing as Jennifer Jones-Key.

MR JUSTICE GOSS: We identified that in the evidence.

MR JOHNSON: We did, my Lord, yes.

MR JUSTICE GOSS: Those have been corrected, so on the version that's on our iPads, those corrections have been made?

TYNDALL: Yes.

MR JUSTICE GOSS: Thank you.

MR JOHNSON: Thank you very much.

Can we turn now to the sequence of events for the other two [Baby G] incidents, please. I'd just like to, before we do that, remind the jury of what we're dealing with. If we can go behind divider 1 in jury bundle 1, ladies and gentlemen.

It's divider 1, page 3. You will recall that we have spent the last few days dealing with the events of 7 September. So if I just call it the projectile vomit, you know what I'm talking about. We're about to move on to counts 8 and 9, which are two separate events, both on 21 September, the first at 10.15 in the morning and the second quite some time later at 15.30 in the afternoon. So there's two counts of attempted murder on that date, two different times on the same shift.

With that in mind, please, Mrs Tyndall, could we go to, and with the assistance of Mr Murphy, the sequence of events. We can see that this version is called "[Baby G] event 2". On the screen it just has the number 2 after [Baby G]'s name in brackets.

So with slide 1, does that mark [Baby G]'s discharge from Arrowe Park on 16 September 2015?

TYNDALL: Yes.

JOHNSON: So just to put that into context, we heard that she'd been born there on 31 May, had been transferred from there to Chester on 13 August, remained at Chester until, I think, was it the 8th or 7 September?

TYNDALL: I think it was the 8th.

JOHNSON: Thank you. So remained at Arrowe Park for about 8 days and was returned for the second time on 16 September.

TYNDALL: Yes.

JOHNSON: We can see that you have -- if Mr Murphy wouldn't mind clicking on the tile, please. Thank you. Mr Murphy has -- sorry, you have transposed part of the discharge letter from Arrowe Park. We won't go to the letter itself but if you could read for us the text that you have reproduced on the second slide behind the basic slide.

TYNDALL: Under the heading respiratory system, they've written:

"Diagnosis: chronic lung disease at 28 days of age. Ventilated for 6 days. One day in oxygen. [Baby G] was transferred from

Countess of Chester Hospital following a significant respiratory deterioration on 07/09/15 (day 100). She required ventilation with maximum oxygen FiO2 1.0. Ventilation parameters were gradually reduced and she was extubated to nasal cannula oxygen on 13/09/15. She is now self-ventilating in room air and there are no respiratory concerns."

Under the heading "Cardiovascular":

"Diagnosis: patent ductus arteriosus. During her stay [Baby G] had significant refractory hypotension which required multiple inotrope support including dopamine, dobutamine, adrenaline and noradrenaline. The inotropes were gradually reduced over several days and finally discontinued on 12/09/15. There have been no cardiovascular concerns since."

JOHNSON: Thank you. On slide 2 did you continue the text from the discharge letter?

TYNDALL: Yes.

JOHNSON: And this is, for reasons connected with Excel, that it can only accommodate so much data in a box?

TYNDALL: Yes.

JOHNSON: And to give you a rest, shall I read this one?

TYNDALL: If you like.

JOHNSON: "Cranial ultrasound. Normal midline. Normal gyral pattern for gestation (inaudible) normal ventricular size. Ventricular index not measured. Notes: discrete hyperechoic patches/opacities seen in periventricular matter bilaterally right to left. [Query] significance. Ischaemic areas. Not seen on previous scan (August). No IVH seen. Jittery movements noted at times during admission. No anticonvulsant treatment was given. These episodes have now resolved. On cranial ultrasound some hyperechoic patches were noted. In view of the abnormal movements and CRUS result, an MRI brain was completed on 15 September 2015 and [it says] these report is awaited."

It may be "these reports", but there we are.

Moving on to slide 3, please. Back to you, if you would.

TYNDALL: Under the heading "Haematological":

"Diagnosis: anaemia of prematurity. Other transient neonatal disorders of coagulation. [Baby G] required a blood transfusion on 09/09/15. She had mildly deranged coagulation with episodes

of bloodstained endotracheal aspirate. She received additional doses of vitamin K for 48 hours. Clotting has since been normal."

Under the heading of "Infections":

"Diagnosis: infection risk. Late after first 48 hours of birth. Sepsis suspected. On admission [Baby G] was on triple antibiotic therapy, which was changed to monotherapy with meropenem. Blood CSF, respiratory and urine cultures were all negative. However, her CRP rose to 218 on 09/09/15 and she completed a 7/7 day course of meropenem. CRP began to improve and her CRP is 11 today (16/9/15)."

JOHNSON: Slide 4. Does that record [Baby G]'s admission to the NNU at Chester at 16.30 hours?

TYNDALL: Yes.

JOHNSON: I think if we were to go behind it, it would show her temperature, heart rate, respiratory rate and sats; is that right?

TYNDALL: Yes.

JOHNSON: Then slide 5, please. Do the records show that [Baby G] received continuous care in the NNU from that moment onwards?

TYNDALL: Correct.

JOHNSON: Thank you. Slide 6, please. What have you summarised there for us?

TYNDALL: So this is the start of the more detailed part of the sequence with all of the medical records from 7 am on the 20th.

JOHNSON: So looking at that and the previous slide, events between [Baby G]'s admission on the 16th at teatime to 7 am on the 20th haven't been put into this summary?

TYNDALL: Correct.

JOHNSON: Or this chronology. Thank you. So moving on to the beginning of the day shift then, please, on Sunday, 20 September. What do we see there?

TYNDALL: So this is the start of the day shift and [Baby G]'s designated nurse was Jennifer Jones-Key.

JOHNSON: Thank you. Slide 8. Do we have the standard readings that we see for all these children, often on the hour, every hour?

TYNDALL: Correct.

JOHNSON: I have got paper copies, my Lord, and -- my mistake -- I forgot to bring them in, but I'll bring them in straight after lunch and we can skip over these charts as we go along and people can look at them as we go through. But I hope that doesn't mean we can't just continue for the next few minutes.

MR JUSTICE GOSS: No, please just do continue until we get to a suitable breaking point.

MR JOHNSON: Yes, thank you.

So that's slide 8. Slide 9, we have the neonatal feeding chart. Just to get ourselves back into the swing of things so far as [Baby G]'s feeding was concerned, if we could look at that, please. Just look at your summary, or we can look at the chart, it doesn't matter.

Does this show that this was day 113 so far as [Baby G] was concerned?

TYNDALL: Yes.

JOHNSON: Her corrected gestation on 20 September was 39 plus 6; is that right?

TYNDALL: Yes.

JOHNSON: So the day of the event that we're going to be looking at was her due date?

TYNDALL: Yes.

JOHNSON: The 40-week due date had she gone to full gestation.

Feed type, so far as she was concerned, was still expressed breast milk.

TYNDALL: Yes.

JOHNSON: Still 45ml.

TYNDALL: Yes.

JOHNSON: By now on bottles?

TYNDALL: Yes.

JOHNSON: B for bottle. And then you have recorded other information as well.

TYNDALL: Yes.

JOHNSON: Thank you. So back to the sequence, please. Do we then have a DaliVit prescription at number 10?

TYNDALL: Correct.

JOHNSON: Followed by some nursing notes made by Nicola Dennison.

We'll deal with those, if we may, because Nurse Dennison won't be being called to give evidence.

Can we go to the originals, please? Could you read those for us, please?

TYNDALL: "Observations stable. No desaturations. Occasional raised heart rate when waking. Demanding feeds. Completing bottles offered. Occasional NG for a rest. BO and PUed."

JOHNSON: Thank you very much. I think at the top of the next column it says, "All medication given as prescribed"; is that right?

TYNDALL: Yes.

JOHNSON: Thank you. We won't go to that, but if we can go back to the carousel, please, and to tile 12.

MR JUSTICE GOSS: All that information is produced on the tile in fact.

MR JOHNSON: It is.

MR JUSTICE GOSS: It's exactly the same.

MR JOHNSON: I know.

Does tile 12 show a communication between Nurse Dennison and the [Family of Baby G]?

TYNDALL: Yes.

JOHNSON: And does it recount the fact that both [Baby G]'s parents had visited late evening, did [Baby G]'s cares and settled her for the night?

TYNDALL: Yes.

JOHNSON: Thank you. So that's a hangover, in effect, from the night shift, Nicola Dennison being the night nurse.

TYNDALL: Yes.

JOHNSON: So do we move on next to tile 13, which is the clinical notes of [Dr C]?

TYNDALL: Yes.

JOHNSON: Again, she's not giving live evidence, so we'll go to those if we may. I don't think we need to read them but we can see some detailed observations, which no doubt will be taken into account by the experts.

TYNDALL: Yes.

JOHNSON: Thank you very much. So could we go back to the carousel, please?

Tiles 14 and 15 are the on the hour or just -- one's on the hour, one's at a quarter past the hour, observations and feeding data.

TYNDALL: Yes.

JOHNSON: Thank you. Followed by [Dr C]' notes at tile 16 at 11.20 on the morning of Sunday, 20 September. If we could go to those, please. Could you read what [Dr C] has noted at 11.20?

TYNDALL: "Discussion with parents. Explained MRI result. Damage to both sides of brain consistent with ischaemic change. Poor quality images so will need repeat scan. Best done in a few months to see how brain developing and more stable. Will increase change of developmental problems but impossible to predict to what extent. Need to monitor development as she grows. Parents, no questions. Aware she is at high risk of developmental problems and would prefer to concentrate on immediate issues and take each day as it comes."

JOHNSON: Thank you. Going back to the carousel, do we then have three tiles, 17 to 19 inclusive, which detail prescriptions timed at between 1.14 and 1.18?

TYNDALL: Yes.

JOHNSON: Thank you. Tile 20 next, please. Do we have the observation chart?

TYNDALL: Yes.

JOHNSON: Followed at the same time by the feeding chart?

TYNDALL: Yes.

JOHNSON: Tile 22, please. Do we have the day nurse, Jennifer Jones-Key's nursing notes?

TYNDALL: Yes.

JOHNSON: She also is not a live witness, so if we can just look at those notes, please, and perhaps just deal with your typed summary as it's easier to read.

TYNDALL: "[Baby G] SVIA. No bradys or desaturations observed. Doctors happy for monitor to come off once had ROP. Temp maintained. Medication given by NNU nurse. 3 times 8 feeds. Has woken and taken all bottle feeds well on own bottles. PU, BO. Mum and dad visited, attended to care and feeds. Parents spoken to by [Dr C] re MRI results."

JOHNSON: PU, passed urine. BO, bowels opened?

TYNDALL: Yes.

MR JOHNSON: Thank you very much.

My Lord, it's exactly 1 o'clock.

MR JUSTICE GOSS: All right. We will break off.

Could you be ready to continue at 2 o'clock, please?

I'll say that this afternoon we will certainly rise by 4.15 because with the rail strike, the traffic, I think, is worse and it's more difficult for people to get about. Thank you.

(1.01 pm)

(The short adjournment)

(2.00 pm)

(In the absence of the jury)

MR MYERS: My Lord, before the jury come into court, can I raise one matter? Just a matter that concerned us and it's best to raise it now and that comes out of something that arose in re-examination of Dr Bohin by Mr Johnson King's Counsel.

I'd cross-examined Dr Bohin because in the course of her evidence-in-chief there'd been reference to watching the proceedings on a video. That was referred to in examination-in-chief and so I raised with Dr Bohin the fact that she watches the witnesses and she sees it with Dr Evans, none of which we suggested was at all improper, we were absolutely clear about that and we said that was the arrangement and that was the process.

Having done that I then raised with her the question of whether there had been any discussion between her and Dr Evans as to the nature of their evidence, which she disputed. She didn't accept that, but we submit that certainly was a legitimate, if not an obvious, question for the defence to ask.

The position of the defence expert as to that and at this stage, we observe, is utterly irrelevant, but in re-examination, Dr Bohin was asked about that. Who else was watching it, who it was, that's Dr Hall, and that he is the neonatal expert for the defence.

Now, we are compelled to observe that wasn't relevant and it's something which in fact is potentially prejudicial depending on the way this goes. There's nothing that I ask your Lordship to do about that at this point, but it's important we convey our concerns because the court will know there's no burden on the defence to call an expert and the presence of that witness at this point is irrelevant. If he gave evidence and anything turns on it then, of course, what the arrangements have been for him can be made (sic).

I reiterate, your Lordship dealt with that in the moment there, and we're grateful for that, and we don't ask to take the matter any further before the jury. But the reason I raise it is that we're anxious that isn't repeated and, in particular, we are anxious that, for example, the prosecution experts don't regard that now as a green light for reference to what Dr Hall may or may not say, his name having been introduced.

Of course, one can never foresee all the situations that emerge and it may be that a line of evidence or a line of questioning may yet transpire where it would become relevant. I'm not suggesting that couldn't happen. But as a starting point, and as matters currently stand, we are compelled to observe that the presence of Dr Hall is irrelevant at this stage and it shouldn't be referred to unless its relevance is very clear. So I feel compelled to raise that. I understand how these things come about, but I'd ask for it not to be repeated.

MR JUSTICE GOSS: Right. Thank you.

Mr Johnson, anything to say about it?

MR JOHNSON: No, thank you.

MR JUSTICE GOSS: No, right, well, it won't be repeated then.

MR MYERS: I'm grateful, my Lord. Thank you.

MR JUSTICE GOSS: I don't know whether the jury will have picked this up, but there's been reference to joint experts' reports and meetings between experts and things, so it's not a mystery to them. I can't believe that they would think, well, the defence won't have had their own expert to consider these matters. But you're right, there's no burden and they just won't be referred to again. I understand your point.

MR MYERS: In particular it's the prospect of it coming up in cross-examination with prosecution experts that it seemed necessary to raise it.

MR JUSTICE GOSS: That's fine. No problem at all.

Thank you very much.

(In the presence of the jury)

MR JOHNSON: My Lord, I remembered, I'm happy to say, to bring extra pieces of paper for the jury to go behind divider 8, please, in jury bundle 2.

(Pause)

Because I'm easily confused, I've written on 10 so that when I open 9, thinking there's nothing there, I see "Behind 8", because 8 and 9 go together. So you won't get anything to go behind 9. If you want to write yourselves a reminder, lest you ask one of your fellow jurors and they say they've forgotten.

MR JUSTICE GOSS: Yes, thank you.

MR JOHNSON: Thank you, my Lord.

Right. Could we start with tile number 23, please.

We'd dealt with number 2, I believe. Is this a note made by Nurse Jones-Key concerning a communication that she'd had with [Baby G]'s parents?

TYNDALL: Yes.

JOHNSON: And saying -- well, if we just click on it, please, for the sake of completeness. Just referring to the fact that [Parents of Baby G] had visited, had attended to [Baby G], and that [Dr C] had spoken to them about the results of the MRI scan.

TYNDALL: Yes.

JOHNSON: Thank you very much. Moving on to 24 and 25, those are the feeding chart and the observation chart, copies of which the jury now have in paper.

TYNDALL: Yes.

JOHNSON: Followed by 26 and 27, which are two prescriptions for potassium chloride and sodium chloride?

TYNDALL: Yes.

JOHNSON: Followed at 7 pm by further observation charts?

TYNDALL: Yes.

JOHNSON: And followed in due course, on the Sunday evening, by the nursing handover?

TYNDALL: Yes.

JOHNSON: And [Baby G] was handed over to Valerie Thomas?

TYNDALL: Correct.

JOHNSON: We see that Nurse Thomas took observations for [Baby G] at tile 30 and fed her at 21.30?

TYNDALL: Yes.

JOHNSON: Further observations at 23.15 at tile 32?

TYNDALL: Yes.

JOHNSON: And a feed at 00.15 at tile 33?

TYNDALL: Yes.

JOHNSON: Followed at 34 and 35 by medications, sodium chloride and a phosphate tablet?

TYNDALL: Yes.

JOHNSON: Then at 2.17 in the morning, tile 36, by the collection of a sample for pathology?

TYNDALL: Yes.

JOHNSON: That was, I think, [Baby G]'s weekly bloods?

TYNDALL: Yes.

JOHNSON: And insofar as the results of that analysis are relevant, they can be referred to in due course by the witnesses.

At tile 37 do we have a corresponding document relating to -- is this a different sample or...?

TYNDALL: Yes, I believe so, testing for a different set of results.

JOHNSON: Yes. A different range of (inaudible)?

TYNDALL: Yes.

JOHNSON: At tile 38, the observation chart was filled in again by Nurse Thomas?

TYNDALL: Yes.

JOHNSON: And Nurse Thomas fed [Baby G] at 03.15?

TYNDALL: Yes.

JOHNSON: 5.58, the same prescriptions we saw earlier for potassium chloride and sodium chloride at tiles 40 and 41?

TYNDALL: Yes.

JOHNSON: Tile 42, further observations at 6 am, together with the feeding chart filled in at the same time by Nurse Thomas?

TYNDALL: Yes.

JOHNSON: And then tile 44 is Nurse Valerie Thomas' nursing notes written retrospectively. She wrote them at 7.19, looking back on the shift. And if we go to those, please, could you help us with what she wrote?

TYNDALL: "Written in retrospect for care from 20.00 to present. Observations satisfactory. Temp 36.4 to 36.7. Well wrapped up. 3x8 feeds continued (EBM). On 165ml/kg. Using own bottles. Completed bottles but had one NGT feed at 03.00 to rest. Settled

late after 21.15 feed, fed by dad. Has passed urine and bowels open. Medication given as prescribed by NNU staff. Routine bloods taken this morning at 06.00 and sent to lab. For IMMS today."

JOHNSON: Thank you. Over the page we have the Monday morning day shift. If we look at tile 45, first of all, please. Do we see there that the paediatrician of the week was Dr Gibbs?

TYNDALL: Yes.

JOHNSON: The on-call consultant, Dr Elizabeth Newby?

TYNDALL: Yes.

JOHNSON: The registrar, Dr Harkness?

TYNDALL: Yes.

JOHNSON: A senior house officer, Peter Fielding?

TYNDALL: Yes.

JOHNSON: A further senior house officer, Dr Ekaterina Clegg?

TYNDALL: Yes.

JOHNSON: Two paediatricians, Dr Matthew Neame and [Dr A]?

TYNDALL: Yes.

JOHNSON: Neonatal doctors, Astha Soni and Rachel Chang?

TYNDALL: Yes.

JOHNSON: And there's message in the notes of a further doctor, Jessica Scott; is that right?

TYNDALL: Yes.

JOHNSON: So far as the nursing staff were concerned on the neonatal unit, was Caroline Bennion the shift leader?

TYNDALL: Yes.

JOHNSON: [Baby G]'s designated nurse on that shift was Lucy Letby?

TYNDALL: Yes.

JOHNSON: And the other nurses were [Nurse B]?

TYNDALL: Yes.

JOHNSON: Shelley Tomlins?

TYNDALL: Yes.

JOHNSON: Caroline Oakley?

TYNDALL: Yes.

JOHNSON: There were also some day management staff in, being Eirian Powell --

TYNDALL: Yes.

JOHNSON: -- Yvonne Griffiths and Yvonne Farmer?

TYNDALL: Yes.

JOHNSON: And last, but not least, the nurse nursery, Janet Cox?

TYNDALL: Yes.

JOHNSON: Do we see from the plan underneath, if we could just scroll down, that there were quite a few babies in the unit on this particular day?

TYNDALL: Yes.

JOHNSON: Starting with [Baby G] in nursery 4, she was with two other children and all three for whom the designated nurse was Lucy Letby?

TYNDALL: Yes.

JOHNSON: In nursery 3, there were two children for whom the designated nurse was the nursery nurse Janet Cox?

TYNDALL: Yes.

JOHNSON: And in nursery 2, there were four children, for two of whom the designated nurse was Caroline Oakley?

TYNDALL: Yes.

JOHNSON: And one each for Caroline Bennion and Janet Cox?

TYNDALL: Yes.

JOHNSON: So far as nursery 1 was concerned, three children. Two of whom were being looked after by Shelley Tomlins.

TYNDALL: Yes.

JOHNSON: And the other by [Nurse B]?

TYNDALL: Yes.

JOHNSON: And there were two other children whose location cannot be established. One was a child who was being looked after by its parents but in respect of whom the designated nurse was Lucy Letby?

TYNDALL: Yes.

JOHNSON: And finally, another child whose designated nurse was Caroline Bennion?

TYNDALL: Yes.

JOHNSON: Who, for reminder's sake, had one other child in nursery 2?

TYNDALL: Yes.

JOHNSON: Thank you very much. Moving on to individual tiles for this particular shift, do we have the observation chart and the feeding chart at 9 am and 9.15 respectively at tiles 46 and 47?

TYNDALL: Yes.

JOHNSON: At tile 48 do we have a nursing note made by Lucy Letby concerning something that happened just after 10 am --

TYNDALL: Yes.

JOHNSON: -- the note for which was written at 12.52?

TYNDALL: Correct.

JOHNSON: Could we just look at that note, please? If we go to the original, please, because it's a Lucy Letby note.

Do we see there the time, it's in the standard format, so the note created at 12.52, and with a further time of 12.53?

TYNDALL: Yes.

JOHNSON: "Mummy telephoned this morning. Arrived shortly after 10.00. Fully up to date on [Baby G]'s condition this morning and

current management. Aware that she will not have her immunisations today."

TYNDALL: Yes.

JOHNSON: Thank you very much.

If we go back to the carousel please, do we then have a black tile denoting the first of the events?

This is the event in respect of which Lucy Letby faces count 8 --

TYNDALL: Yes.

JOHNSON: -- and in respect of which Lucy Letby made a record which is recorded on tile 50?

TYNDALL: Yes.

JOHNSON: If we can go to that, please, and go to the original.

Thank you.

This note is written before the one we've just looked at. We can see it's written between, apparently, 12.47 and 12.51.

TYNDALL: Yes.

JOHNSON: Could you read for us what it says, please?

TYNDALL: "Written for care given from 08.00. Emergency equipment checked, fluids calculated. [Baby G] nursed in a cot. [Baby G] appears pale. Temperature 36.4. Hat in situ and well wrapped. NG tube feed EBM given..."

I presume that's supposed to say "at 09.00":

"... as [Baby G] asleep and due immunisations. At 10.15 x2 large projectile milky vomits. Brief self-resolving apnoea and desaturation to 35% with colour loss. NG tube aspirated. 30ml undigested milk discarded. Abdomen distended, soft. Doctors asked to review. Temperature remains low. Tachycardic. Greater than 180BPM since vomit. Mum states that [Baby G] does not appear as well as she did yesterday. U&E, FBC and CRP taken and sent. Blood gas as documented. Blood sugar 9.6mmol. To go nil by mouth. Commence IV fluids and antibiotics. Care handed over to [Nurse B] approx 11.30."

JOHNSON: Thank you very much. Do we then have on the next tile, tile 51, the clinical notes of Dr Fielding?

TYNDALL: Yes.

JOHNSON: Dr Fielding will be coming to give evidence, so we'll leave those notes for Dr Fielding. But they record in effect the history of what the doctor was told and whatever it was the doctor found on examination; is that right?

TYNDALL: Yes, that's correct.

JOHNSON: Thank you. Have you then put into the sequence the record of a heel prick being taken by Lucy Letby --

TYNDALL: Yes.

JOHNSON: -- at tile 52? Followed by the blood gases at 10.40, again by Lucy Letby.

TYNDALL: Yes.

JOHNSON: And then at 11 am, tile 54, the observation chart which the jury has in paper form as well?

TYNDALL: Yes.

JOHNSON: Do we come next to some further nursing notes written at about the same time as the ones we've seen previously but concerning events or the handover that Lucy Letby gave to [Nurse B]?

TYNDALL: Yes. They're part of the notes I just read out.

JOHNSON: Thank you very much.

There's then the time change in the sequence, so that we don't lose sight of it at 11.30, followed by Dr Chang's medical notes at tile 57, and again Dr Chang will be coming in due course, so we will leave her notes to Dr Chang.

Next, tile 58. Do we have a record of a pathology sample at 12.01 --

TYNDALL: Yes.

JOHNSON: -- in Lucy Letby's name?

TYNDALL: Yes.

JOHNSON: Followed by, at 12.17, a record of Dr Chang taking blood for analysis?

TYNDALL: Yes.

JOHNSON: If we can go to that, actually, please. Do we see there that the blood was cultured and that there was no bacterial growth in that sample after it had been left for 5 days for incubation?

TYNDALL: Yes.

JOHNSON: Thank you. On next to tile 60, please. This is Dr Wright's X-ray report in respect of an X-ray taken at 12.21; is that right?

TYNDALL: Yes, that's correct.

JOHNSON: If we could look at that, please, because Dr Wright isn't required to give evidence. Could you just read to us the findings of Dr Wright?

TYNDALL: This is an X-ray of the abdomen:

"Marked gaseous distension of bowel throughout the abdomen, excluding the rectum which contains a little gas. Transition point at the rectosigmoid junction and Hirschsprung's disease should be clinically considered. The differential diagnosis includes sepsis. No free peritoneal air or intramural gas identified. Please fax the report to clinical team."

JOHNSON: Next, at tile 61, do we have [Nurse B]'s recording of [Baby G]'s observations?

TYNDALL: Yes.

JOHNSON: Followed by some further retrospective notes made by Lucy Letby?

TYNDALL: Yes, that's the entry in full that I read out.

JOHNSON: Yes, thank you. So that's actually the time it was written, isn't it?

TYNDALL: Yes, that's the time it was entered on to the computer.

JOHNSON: Thank you. Then at tile 63 do we have a cefotaxime prescription for [Baby G]?

TYNDALL: Yes.

JOHNSON: Followed by, a minute later, a record of that having been given to [Baby G]?

TYNDALL: Yes, on the computer.

JOHNSON: Thank you. At tile 65 and 66 do we have the actual time that previous notes that we've -- the retrospective notes we've looked, the time they were entered into the computer by Lucy Letby?

TYNDALL: Yes.

JOHNSON: Then at tile 67 the reporting of some pathology results?

TYNDALL: Yes.

JOHNSON: Followed by the observation chart at 2 o'clock, on which [Nurse B] made a note?

TYNDALL: Yes.

JOHNSON: And then the blood sugars at tile 69?

TYNDALL: Yes.

JOHNSON: And the reading, we don't need to go into it, given that we all now understand these things, was 4.7?

TYNDALL: Yes.

JOHNSON: Then at tile 70 have you put into the sequence the fact that between 14.33 and 14.38, about a 5-minute period, there were 11 messages between Lucy Letby and [Nurse E]?

TYNDALL: Yes.

JOHNSON: Do we come next to tile 71, which is Dr Gibbs' clinical notes?

TYNDALL: Yes.

JOHNSON: And again, we'll leave those to Dr Gibbs.

The next tile is 72, which is retrospective notes made by [Nurse B]?

TYNDALL: Yes.

JOHNSON: And these -- she will be giving evidence so I'll leave them to here, but they concern attempts made at cannulating [Baby G]; is that right?

TYNDALL: Yes, that's correct.

JOHNSON: Thank you. The second event of the day, and count 9, is marked in the sequence with the next black tile, which is numbered 73.

TYNDALL: Yes.

JOHNSON: You get that timing presumably from what's recorded on the next tile at 74, which is bleep data timed at 15.27.

TYNDALL: Yes.

JOHNSON: Was that bleep to get the neonatal registrar to the neonatal unit?

TYNDALL: Yes.

JOHNSON: Thank you. Tile 75. The registrar Dr Chang made a note for events at 15.30; is that right?

TYNDALL: Yes, that's the time she's noted in her notes.

JOHNSON: Yes, for the events having happened?

TYNDALL: Yes.

JOHNSON: Again, we'll be seeing Dr Chang so I'll leave her notes to her. But they, in a sentence, record the desaturation of [Baby G] down to 50, either to 50 or below 50?

TYNDALL: Yes.

JOHNSON: And the resuscitation that had to take place to bring her back?

TYNDALL: Yes, that's correct, and the plan to ask her to be moved to nursery 1.

JOHNSON: Yes. At tile 76 do we have some further retrospective notes made by [Nurse B] concerning the collapse of [Baby G]?

TYNDALL: Correct.

JOHNSON: Then at tile 77, do we have a record made by Nurse Caroline Bennion of intravenous and subcutaneous infusion prescriptions?

TYNDALL: Yes.

JOHNSON: Thank you. At tile 78 and 79 do we have the observation and fluid balance charts at 4 pm?

TYNDALL: Yes.

JOHNSON: And some time after that, but before 5 o'clock, was [Baby G] moved from nursery 4 to nursery 1?

TYNDALL: Yes.

JOHNSON: Was that followed at 5 pm by [Baby G]'s observations being taken by [Nurse B]?

TYNDALL: Yes.

JOHNSON: Together with data being filled in on the neonatal fluid balance chart?

TYNDALL: Yes.

JOHNSON: After that, at tile 83, is there a record, albeit it's untimed, of a further infusion being given to [Baby G]?

TYNDALL: Yes, it's been placed there because the entry on the fluid balance chart mentions dextrose being started.

JOHNSON: At tile 84 do we then have some retrospective notes made by [Nurse B]?

TYNDALL: Yes, concerning mainly the fluid being commenced and the transfer to nursery 1.

JOHNSON: So again because she's coming, we'll leave that to her.

But moving on to tiles 85 and 86, are these further records made by [Nurse B] at 17.18 and 17.20 respectively?

TYNDALL: Yes, they're the times she entered her notes on to the computer.

JOHNSON: And then do we have [Nurse B]'s observations at 6 pm recorded at tiles 87 and 88?

TYNDALL: Yes.

JOHNSON: There's a blood gas at tile 89?

TYNDALL: Yes.

JOHNSON: And a reference made to the results of that blood gas by [Nurse B] at tile 90?

TYNDALL: Yes.

JOHNSON: So that was at 18.39. On the hour at 7 pm, 19.00 hours, tiles 91 and 92, again do we have the standard charts that we've seen so often before?

TYNDALL: Yes.

JOHNSON: Then, at tile 93, a record of [Baby G]'s care having been handed over from [Nurse B] to Nurse Butterworth?

TYNDALL: Yes.

JOHNSON: And she, that is Nurse Bernadette Butterworth, recorded the standard observations at 8 pm --

TYNDALL: Yes.

JOHNSON: -- as we see at tiles 94 and 95? And next do we then go into quite a long series of texts or WhatsApp messages sent either from or to Lucy Letby?

TYNDALL: Yes.

JOHNSON: Starting with 96 at 20.56. So this is just after the end of the day shift. Did Lucy Letby text [Nurse A]?

TYNDALL: She did.

JOHNSON: What did she say?

TYNDALL: "[Baby G] poorly again."

JOHNSON: Was that then followed on the next slide by some social messages sent by Lucy Letby to [Nurse E]?

TYNDALL: Yes.

JOHNSON: At 20.59. At tile 98 did Nurse Butterworth record [Baby G]'s fluid balance chart or make a record on [Baby G]'s fluid balance chart?

TYNDALL: Yes.

JOHNSON: Thank you. And then did Lucy Letby then send further social messages to [Nurse E] at 21.02?

TYNDALL: Yes.

JOHNSON: Did she follow up her earlier text to [Nurse A] at tile 100?

TYNDALL: Yes. That says:

"Oh, and sounds like Wed night might not be on now. Not enough interest."

JOHNSON: [Nurse A] responded to that at 21.16?

TYNDALL: "Yeah, I heard about Wed. What's up with [Baby G]? I was a bit unsure about her being put in 4 so fast. Seemed too good to be true and trust her."

JOHNSON: Did she follow that up almost immediately?

TYNDALL: "You on tonight?"

JOHNSON: And Lucy Letby responded, within 60 seconds or so?

TYNDALL: "Been on today."

JOHNSON: [Nurse A] responded?

TYNDALL: "Ah, thought you weren't nights. [Baby G] septic again?"

JOHNSON: And Lucy Letby responded?

TYNDALL: "Nights Fri, Sat, Sun. [Baby G] vomiting, pale, apnoeas/desats. On Optiflow in 1. CRP 18. Been cold in last 24hr."

JOHNSON: Thank you. Then her next message that she sent to [Nurse A] said what?

TYNDALL: "Due date today!"

JOHNSON: This was [Baby G]'s due date, wasn't it?

TYNDALL: Yes.

JOHNSON: [Nurse A] responded to that, please?

TYNDALL: "Oh she likes to celebrate the big ones in style [sad face]."

JOHNSON: And she followed that up a minute later with?

TYNDALL: "When was she screened if been cold for 24 hours?"

JOHNSON: Did Lucy Letby respond almost immediately with?

TYNDALL: Yes:

"Due imms today too. I got her screened this morning after she vomited."

JOHNSON: And then a minute later from [Nurse A]?

TYNDALL: She responded with:

"Was she still in 4 then?"

JOHNSON: And at about the same time Lucy Letby answered?

TYNDALL: "Yup and had NN all weekend. Looked rubbish when I took over this morning then she vomited at 9 and I got her screened."

JOHNSON: About a minute later [Nurse A] responded?

TYNDALL: "See? It really worries me. I wasn't on when she was moved but wouldn't have done it myself."

JOHNSON: Lucy Letby then?

TYNDALL: "I personally felt it was a big jump considering how sick she was just a week ago. Being in 4 is bad enough and then having NN that just don't always know what to look for/act on."

JOHNSON: That context, is NN nursery nurse?

TYNDALL: I believe so, yes.

JOHNSON: So a band 4?

TYNDALL: Yes.

JOHNSON: Did Lucy Letby send a further message?

TYNDALL: Yes, saying:

"Mum said she hasn't been herself for a couple of days."

JOHNSON: Then [Nurse A]?

TYNDALL: "Fuck. I wish she'd told a registered nurse."

JOHNSON: And Lucy Letby responded?

TYNDALL: "It's hard, isn't it? When mum came in today she was like, oh, I'm so pleased you've got her, which I thought was a little strange as I don't know her that well, but wonder if she just felt reassured to have a nurse."

JOHNSON: And then almost immediately?

TYNDALL: "Unit really busy though. Got an undiagnosed truncus at 6 tonight and N [which is the name of another baby] poorly."

JOHNSON: Thank you. Just to remind us that in this context N is somebody else, you put in underneath in italics:

"Redacted for third party name."

TYNDALL: Yes.

JOHNSON: So continuing, at 21.28 a further message from [Nurse A]?

TYNDALL: "And N?"

Again that's the third party name:

"Poor Ali is on nights but at least has George on with her."

JOHNSON: Are those names references to two of the doctors?

TYNDALL: Yes, I believe would be Alison Ventress and George would be Dr Fugazzi(?) .

JOHNSON: At 21.29, did Lucy Letby reply to that message?

TYNDALL: "Yeah, she wasn't good yest. On BiPAP. Positive cultures."

JOHNSON: And then at about the same time?

TYNDALL: "Got 2 in 1 on CPAP and a baby on Prostin."

JOHNSON: Almost immediately again?

TYNDALL: "At least George is good."

JOHNSON: And did [Nurse A] respond "Damn"?

TYNDALL: Yes.

JOHNSON: And Lucy Letby responded "All going on" with a sad emoji?

TYNDALL: Yes.

JOHNSON: Followed by:

"But on a positive Dr Gibbs has taken A off Optiflow and she's still all bottles."

TYNDALL: Yes.

JOHNSON: And in that context, A is one of the other children?

TYNDALL: Yes.

JOHNSON: Thank you. At tile 125 do we have further observations taken from [Baby G] by Nurse Bernadette Butterworth?

TYNDALL: Yes.

JOHNSON: Followed a minute later by the prescription for cefotaxime?

TYNDALL: Yes.

JOHNSON: Did the messages then resume, starting with -- in fact it's only a minute after the previous one that Lucy Letby had sent to [Nurse A]. But [Nurse A] responded with what, please?

TYNDALL: "Yup. And has had a shit day. She's good at digging deep and coping though."

JOHNSON: And then?

TYNDALL: "Yay re A."

Which is the baby.

JOHNSON: And did Lucy Letby respond, "Oh dear, hope she's okay"?

TYNDALL: Yes.

JOHNSON: And there then followed some social messages between 21.31 and 21.43?

TYNDALL: Yes.

JOHNSON: At 22.30, tiles 131 and 132, do we have the fluid balance chart and the observation chart?

TYNDALL: Yes.

JOHNSON: At 133 did Lucy Letby then make a Facebook search?

TYNDALL: Yes.

JOHNSON: Who did she search for, please?

TYNDALL: [Mother of Baby G].

JOHNSON: Is [Mother of Baby G] the mother of [Baby G]?

TYNDALL: Yes.

JOHNSON: So at 134, do we then have the clinical notes made by Dr Ventress?

TYNDALL: Yes.

JOHNSON: Who will be coming to tell us about those. Then at 135 and 136 do we have the fluid balance chart and the observations chart at 23.00 and 23.30 respectively?

TYNDALL: Yes.

JOHNSON: Followed at 137 by a further infusion given to [Baby G]?

TYNDALL: That's the dextrose being taken down.

JOHNSON: Right.

TYNDALL: The previous infusion.

JOHNSON: Yes, you're quite right. Thank you. That's 138.

Do we have the fluid balance chart recorded again?

TYNDALL: Yes.

JOHNSON: At 139 a further -- this is, I think, a further infusion?

TYNDALL: Yes, this is another one being started.

JOHNSON: Yes, at 00.20. Then the observations at 00.30 at 140?

TYNDALL: Yes.

JOHNSON: Blood gases at 141?

TYNDALL: Yes.

JOHNSON: The observation chart at 142?

TYNDALL: Yes.

JOHNSON: Then the fluid balance chart again at 2 am at tile 143?

TYNDALL: Yes.

JOHNSON: Do we have further notes from Dr Ventress after that?

TYNDALL: Yes, about insertion of a line.

JOHNSON: Yes. And again, Dr Ventress may be coming to tell us about that.

Is that followed by Nurse Butterworth's nursing notes?

TYNDALL: Yes.

JOHNSON: Just deal with those, please. Could you read that text to us?

TYNDALL: This relates to the line, so:

"Remains nil by mouth and continues to have 10% dextrose running. Fluids initially running via PVC which had been very positional and occluding. Stripped and redressed. Continued to occlude and began to leak, so removed. After several attempts to re-site cannula, peripherally failed. Cannula was sited in scalp and fluids recommenced."

JOHNSON: Thank you. At 3 am, in the next tile, is there the neonatal fluid balance chart?

TYNDALL: Yes, which records that the fluids were recommenced at 02.55, which is why that nursing note entry and the lines have been put before it.

JOHNSON: Thank you. At 03.20, do we have the observation chart at 147?

TYNDALL: Yes.

JOHNSON: Fluid balance chart again at 04.30, which is tile 148?

TYNDALL: Yes.

JOHNSON: And observations at 04.30 --

TYNDALL: Yes.

JOHNSON: -- at tile 149, followed by a further cefotaxime injection at 5.23 in the morning --

TYNDALL: Yes.

JOHNSON: -- and sodium chloride, no doubt as a flush, as we have learned? Followed by the neonatal fluid balance chart again at 5.30 am --

TYNDALL: Yes.

JOHNSON: -- and further observations at the same time?

TYNDALL: Yes.

JOHNSON: The same data or different data but on the same chart recorded as tiles 154 and 155?

TYNDALL: Correct.

JOHNSON: 156, [Baby G]'s blood gases?

TYNDALL: Yes.

JOHNSON: Then at 157 some further notes made by Nurse Butterworth?

TYNDALL: Yes, this is when she puts the -- her record of the shift, completed it on the computer.

JOHNSON: Yes. And I think, other than the normal safety checks which we have seen many times, most of that material, insofar as it's relevant, has already appeared earlier in the sequence; is that right?

TYNDALL: Yes.

JOHNSON: At 158, do we have the fluid balance chart and the observation chart?

TYNDALL: Yes.

JOHNSON: I should have said 158 and 159, I beg your pardon. Then the handover from Nurse Butterworth to Nurse Caroline Oakley at the start of the morning shift of Tuesday, 22 September 2015?

TYNDALL: Yes.

JOHNSON: Is the next thing in the sequence a pathology sample?

TYNDALL: Yes.

JOHNSON: Which is a blood test?

TYNDALL: Yes.

JOHNSON: Followed by, at 162, some further retrospectively nursing notes made from the previous night shift by Bernadette Butterworth?

TYNDALL: Yes.

JOHNSON: As indeed there are some family communications notes made by the same person a minute later?

TYNDALL: Yes.

JOHNSON: At tiles 164 and 165, at 8.30, do we have the fluid balance and observation chart?

TYNDALL: Yes.

JOHNSON: Followed an hour later by a further fluid balance chart at 166?

TYNDALL: Yes.

JOHNSON: Then Dr Chang's notes, not timed, but (inaudible) from their content when they appear in the sequence; is that right?

TYNDALL: Yes. They're the ward round notes. They're a bit different to -- they're not in response to anything, just...

JOHNSON: Yes. If we just look at those just to remind ourselves of what it is we're talking about, if we look at the original, please. This is the weekly review in preparation for the grand round, is it, that happens on a Wednesday?

TYNDALL: I think so.

JOHNSON: We have heard a bit of evidence about this. This is the standard form filled in by the junior doctors for the consultant to come round the following day, I think.

Anyway, that has been the evidence we have heard, so if we just rewind back to the carousel, please.

At 10.30, it's tile 168. And together with 169, we have the fluid balance and observation charts?

TYNDALL: Yes.

JOHNSON: As we do at 11.30 at tile 170?

TYNDALL: Yes.

JOHNSON: And a heel prick, blood gases and pathology -- sorry, heel prick and blood gases taken at 171 and 172?

TYNDALL: Yes.

JOHNSON: 173, pathology sample?

TYNDALL: Yes.

JOHNSON: In which the CRP level reading was ordered?

TYNDALL: Yes.

JOHNSON: At 174, at 12.30, and at 175, at the same time, do we have the fluid balance chart and the observation chart --

TYNDALL: Correct.

JOHNSON: -- (overspeaking) nursing medication at 13.18 through to 13.28, being ranitidine and sucrose, cefotaxime, Gaviscon and sodium chloride?

TYNDALL: Yes.

JOHNSON: Thank you. Then at 13.30 and 4.30, tiles 181 and 182 respectively, the fluid balance chart at those times?

TYNDALL: Yes.

JOHNSON: Followed by the observations at 14.30 at 183?

TYNDALL: Yes.

JOHNSON: Further fluid balance chart at 15.30?

TYNDALL: Yes.

JOHNSON: And then at tile 185 an update to the nursing notes made by Caroline Oakley?

TYNDALL: Yes.

JOHNSON: She'll be coming to tell us about those so I will move on, please, to tile 187. A further fluid balance chart and observations at 16.30?

TYNDALL: Yes.

JOHNSON: 189, a further fluid balance chart?

TYNDALL: Yes.

JOHNSON: That's at 5 pm.

Then the next tile is 190. Does that record a fairly wide spread of time between 13.57 and 17.12, in which there were various messages involving Lucy Letby, Jennifer Jones-Key, [Nurse A] and Yvonne Griffiths, discussing work but nothing that relates to [Baby G]?

TYNDALL: Yes.

JOHNSON: Thank you. That brings us to tile 191 which is a message sent by Lucy Letby to Jennifer Jones-Key at 17.12.

TYNDALL: Yes. It reads:

"Gosh, not good at all. Did [Baby G] behave?"

Then there's further context in the message but it's not related to [Baby G].

JOHNSON: Thank you. And a minute later, was there a further social message sent by Lucy Letby to Jennifer Jones-Key?

TYNDALL: Yes.

JOHNSON: Then at 17.14, which is tile 193, did Jennifer Jones-Key respond to Lucy Letby about [Baby G]?

TYNDALL: Yes, saying:

"Yeah, she did, but was screaming for food."

Then the message carries on but again it's not relevant to [Baby G].

JOHNSON: Yes. Were there also some further messages between those two individuals from 17.15 to 23.47 that night, discussing work but not relating to [Baby G]?

TYNDALL: Yes.

JOHNSON: Thank you. Picking this up, back in the sequence, at 17.30 that day, is there a further neonatal fluid balance chart at 17.30 and then at 18.30?

TYNDALL: Yes.

JOHNSON: Followed by the general observations at 18.30?

TYNDALL: Yes.

JOHNSON: Then an update to the nursing records made by Caroline Oakley at 18.43?

TYNDALL: Yes.

JOHNSON: If we just deal with that, please. Does that say:

"Remains self-ventilating in air. No desats/apnoeas/bradys. Slow introduction of feeds tolerated. Stools green/yellow. Observations satisfactory"?

TYNDALL: Yes.

JOHNSON: Thank you. Going back to the carousel, please, do the records show that [Baby G] continued to receive continuous care from 18.43 on 22 September to 2 November when she was discharged from the Countess of Chester?

TYNDALL: Yes.

JOHNSON: So that's Tuesday, 22 September. On Saturday, 26 September and Sunday 27th were there two events, both in the early hours of each morning respectively, concerning [Baby H]?

TYNDALL: Yes.

JOHNSON: Then if we go back or carry on, sorry, I should say, to tile 202. Remembering that [Baby G], of course, was still in the Countess of Chester Hospital at this stage, not being discharged until 2 November, do we have a message sent by Lucy Letby to [Nurse A]?

TYNDALL: Yes.

JOHNSON: Could you read it for us?

TYNDALL: "Has anything been done about [Baby G] vomiting?"

JOHNSON: And the response to that from [Nurse A]?

TYNDALL: "[Baby G] still vomiting but a bit less, I think."

JOHNSON: Reminding ourselves again that [Baby G] was discharged on 2 November, on 5 November at 23.41 who did Lucy Letby search for on Facebook?

TYNDALL: [Mother of Babies E & F].

JOHNSON: Within the same minute who did she also search for?

TYNDALL: [Mother of Baby G].

JOHNSON: Then 3 minutes later at 23.44?

TYNDALL: [Mother of Baby I].

JOHNSON: And was [Mother of Baby I] the mother of [Baby I]?

TYNDALL: Yes.

JOHNSON: Who is one of the children to whose case we'll come after [Baby H]?

TYNDALL: Yes.

JOHNSON: So it goes [Baby G], [Baby H], [Baby I]?

TYNDALL: Yes.

JOHNSON: So that's 5 November.

Tile 207. On 14 November, at 21.34, did Lucy Letby search again for [Mother of Baby G]?

TYNDALL: Yes.

JOHNSON: And then [Mother of Babies E & F] 3 minutes later?

TYNDALL: Yes.

JOHNSON: And then at 209, on 23 January 2016, so 2 months and a week or so later, again for [Baby G]'s mother?

TYNDALL: Yes.

JOHNSON: Which she repeated again on 12 February?

TYNDALL: Yes.

JOHNSON: And finally, so far as the sequence is concerned, on 1 September?

TYNDALL: Yes.

MR JOHNSON: Thank you very much.

I don't know whether there any -- no, there are no questions for you. Thank you.

Does your Lordship have any questions?

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

(The witness withdrew)

MR JOHNSON: Could I call Claire Hocknell, please?

MR JUSTICE GOSS: Yes, certainly.

MS CLAIRE HOCKNELL (recalled)

Examination-in-chief by MR JOHNSON

MR JOHNSON: We go to the reviews next, please.

(Pause)

Mrs Hocknell, in relation to [Baby G], what we have called event 8, we can see from the front sheet that this was originally compiled by one of your colleagues, but that you have edited it.

HOCKNELL: Yes, that's correct.

JOHNSON: The time period for the review is 21 September at 8 am to 17.30 pm?

HOCKNELL: Yes.

JOHNSON: So in other words, most of the day shift that day?

HOCKNELL: Yes.

JOHNSON: But also includes all records where Lucy Letby appears during that shift, whenever that event occurred?

HOCKNELL: Yes.

JOHNSON: As before, if records relating to a specific baby don't appear within the time frame that you selected, the closest record for that baby has been selected and put in for completeness?

HOCKNELL: Yes.

JOHNSON: So far as the key is concerned, the same conventions apply as with the previous reviews; is that right?

HOCKNELL: Yes, that's correct.

JOHNSON: So do we see, turning over on page 2 of 9, a replica of the material that appears in the sequence of events as to where

babies were at the beginning of the day shift and who was their respective designated nurse?

HOCKNELL: Yes, that's correct.

JOHNSON: Thank you. So moving on to page 1, do we see that between 8 am and 10 am there were two events concerning [Baby G]?

HOCKNELL: Yes.

JOHNSON: They're shaded in yellow at lines 21 and 33?

HOCKNELL: Yes.

JOHNSON: There are also some additional events concerning the children CM and BH?

HOCKNELL: Yes.

JOHNSON: If you want to remind yourself, we can turn back to the previous page to see that BH and CM were rooming with [Baby G] in nursery 4 --

HOCKNELL: Yes.

JOHNSON: -- and their designated nurse was Lucy Letby.

HOCKNELL: Yes, that's correct.

JOHNSON: Thank you. Turning over then, please, to the second page, do we see, first of all, to give us context, at line 74 the timing of the event relating to [Baby G], which replicates our count 8?

HOCKNELL: Yes.

JOHNSON: And before that event, do we see that, at 10 am, Lucy Letby administered some medication to the child OR?

HOCKNELL: Yes.

JOHNSON: Together with Caroline Oakley?

HOCKNELL: Yes.

JOHNSON: Do we know where OR was?

HOCKNELL: I think OR was rooming in with the parents.

JOHNSON: Yes. Thank you. Some time after 10 am, does Lucy Letby make a note in the nursing note concerning [Baby G]'s mum having arrived shortly after 10 am?

HOCKNELL: I think it was written retrospectively, but it was referring to the event at just after 10 o'clock, yes.

JOHNSON: All right. We can go back to the sequence if we want to get the precise timing of that. But otherwise, is the first note at around the time of the event concerning [Baby G] that made at line 75?

HOCKNELL: Yes.

JOHNSON: By Lucy Letby?

HOCKNELL: Yes.

JOHNSON: We then see at lines 83, 92 and 105 there are other entries concerning [Baby G] at 10.30, 10.40 and 11 o'clock respectively?

HOCKNELL: That's correct, yes.

JOHNSON: Thank you. Over the page, please, at page 5 of 9, do we see that there are five entries concerning [Baby G]?

HOCKNELL: Yes.

JOHNSON: The first is at line 138, which is a nursing note made by Lucy Letby concerning handing over [Baby G]'s care to [Nurse B]?

HOCKNELL: That's correct.

JOHNSON: Therefore we have, at 149, Dr Chang's reference, which we can pick up from the sequence of events.

HOCKNELL: Yes.

JOHNSON: An entry at 162 concerning pathology for Lucy Letby?

HOCKNELL: Yes.

JOHNSON: And at 174, further pathology in the name of Dr Chang?

HOCKNELL: Yes.

JOHNSON: Then an unsigned entry at 12.21, concerning an X-ray?

HOCKNELL: Yes.

JOHNSON: Thank you. At page 6 of 9 do we see that there is a block of yellow in the top third of the page?

HOCKNELL: Yes.

JOHNSON: These concern entries made within the period of time between 12.45 and 12.53?

HOCKNELL: Yes.

JOHNSON: Some made by Lucy Letby, others made by [Nurse B]?

HOCKNELL: Yes, that's correct.

JOHNSON: Further down the page in blue, just at 214, 215, 219 to 220, 225 to 226, entries relating to other children made by Lucy Letby?

HOCKNELL: Yes.

JOHNSON: Together with a feeding chart at 229?

HOCKNELL: Yes.

JOHNSON: And one final [Baby G] entry at 245, concerning a blood sugar entry made by [Nurse B]?

HOCKNELL: Yes.

JOHNSON: Thank you.

At page 7 of 9 we have the second event at 15.30; is that right?

HOCKNELL: Yes.

JOHNSON: Either side of that event, several notes relating to [Baby G] made by both medical and nursing staff?

HOCKNELL: Yes.

JOHNSON: Before that time, we have three entries made by Lucy Letby on the records of OR and RH?

HOCKNELL: That's correct, yes.

JOHNSON: And after that time, at 16.00 hours, so lines 303 01 (sic), feeding charts concerning CM?

HOCKNELL: Yes.

JOHNSON: At the bottom of the page at 5 pm, entries made by Nurses [Nurse B], Farmer and Dr Jessica Scott relating to [Baby G]?

HOCKNELL: Yes.

JOHNSON: On the final page, I think we see again quite a few entries made by Lucy Letby for other children?

HOCKNELL: Yes.

JOHNSON: And four entries made by [Nurse B] between lines 334 and 342?

HOCKNELL: Yes.

MR JOHNSON: Thank you very much.

I understand there are no questions for you.

Does your Lordship have any questions?

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

MR JOHNSON: Just for completeness, we have the sheet at the end of the shift, showing where people were and, for the sake of completeness, the fact that [Baby G]'s location changed from nursery 4 to nursery 1 is recorded in that bottom left-hand box.

HOCKNELL: Yes, that's correct.

JOHNSON: Is that right?

HOCKNELL: Yes.

JOHNSON: Thank you.

MR JUSTICE GOSS: The designated nurse changed as well at 11.30.

HOCKNELL: Yes.

MR JOHNSON: It did, my Lord, yes, that's at the top left.

Thank you very much.

Thank you all the questions we have for you at this stage. Thank you very much.

(The witness withdrew)

MR JOHNSON: It may be a good moment for the break, my Lord, because we're about to call a witness who --

MR JUSTICE GOSS: I think we have to have a break, don't we?

Can we make it 5 or so minutes? Is that all right?

MR JOHNSON: Yes.

MR JUSTICE GOSS: No, it'll be nearer to 10 minutes, I'm told, because the witness has got to be got up here.

Thank you.

(3.05 pm)

(A short break)

(3.14 pm)

MR JUSTICE GOSS: Yes, Mr Astbury.

[NURSE B] (recalled)

Examination-in-chief by MR ASTBURY

MR ASTBURY: My Lord, I recall, please, [Nurse B].

I know you have given evidence before, but can I ask you to state your name for the record, please?

NURSE B: Yes: [Nurse B].

ASTBURY: Thank you. You have come here today to help us with or to recall events on 21 September 2015 --

NURSE B: Yes.

ASTBURY: -- and answer questions in particular about a baby named [Baby G].

NURSE B: Yes.

ASTBURY: Could I ask, when you provided your statement to the police, was that entirely based on notes or do you have some recollections of [Baby G] from September of 2015?

NURSE B: Some recollection, yes.

ASTBURY: Okay. But have you relied in part on the notes?

NURSE B: Yes, for the finer details, yes.

ASTBURY: So a combination of the two?

NURSE B: Yes.

ASTBURY: All right. So before 21 September, we've heard [Baby G] spent some time in the neonatal unit. Were you familiar with [Baby G] before 21 September?

NURSE B: Yes, I was.

ASTBURY: So you knew something of her background, her treatment, firstly at Arrowe Park, and then transfer to Chester?

NURSE B: Yes.

ASTBURY: All right. Her extreme prematurity?

NURSE B: Yes.

ASTBURY: And the health problems she'd had at Arrowe Park before her transfer?

NURSE B: Yes.

ASTBURY: You will recall that we have on the screen ahead of you some of the detail that we've lifted from the notes to assist. Whilst I'll ask you about the 21st, just for the sake of completeness, I'm going to ask you, please, to look at tiles 26 and 27.

We don't need to go behind them, but now you're becoming familiar with this too. Two slides there suggesting that you assisted with medication, in fact, on 20 September with a colleague called Mary Griffith.

You prescribed potassium chloride and, I assume, a sodium chloride flush thereafter on 20 September. No recollection of that, I assume, but --

NURSE B: I have never been asked about that date in particular.

ASTBURY: Just because it appears on our sequence of events chart, I'll cover it with you.

Without delay then, please, we'll go then to tile 45. Were you on a day shift on 21 September --

NURSE B: I was.

ASTBURY: -- coming on at 7.30? If we can go behind that, please.

You may recall this representation from previous occasions. We can see there, the commencement of the shift on 21 September at 7.30. The relevant consultants in the top smaller box, the doctors then set out in the next box down in a peach colour. Further down, the nurses who were on duty. We can see that the shift leader was Caroline Bennion, your colleague.

NURSE B: Yes.

ASTBURY: Certainly at the start of the shift, [Baby G]'s designated nurse was Lucy Letby?

NURSE B: Yes.

ASTBURY: Also listed there we can see yourself, Shelley Tomlins, Caroline Oakley.

NURSE B: Yes. I don't remember Shelley and Caroline being there.

ASTBURY: Okay.

NURSE B: Caroline Oakley I don't remember being there.

ASTBURY: Of course, we have two Carolines there, thank you.

We have also names of members of the management who, I understand, would be there certainly in the unit in their respective offices; is that correct?

NURSE B: I remember Eirian being there, yes, my old manager.

ASTBURY: But in their capacity on those particular days presumably not playing a part in the care of the direct care of the children in the unit?

NURSE B: Not unless they were called upon.

ASTBURY: Thank you. Just at the bottom we can see the name of the nursery nurse who is on duty is Janet Cox.

NURSE B: Again I don't remember Janet being there.

ASTBURY: Thank you, all right.

Lucy Letby began as the designated nurse for [Baby G]; did that situation change?

NURSE B: Yes, it did.

ASTBURY: Did you become [Baby G]'s designated nurse?

NURSE B: Yes.

ASTBURY: Can you remember roughly what time that was?

NURSE B: I think it was late morning.

ASTBURY: Okay. And when you took over, this may have happened before, but certainly by the time you took over [Baby G]'s care, had you familiarised yourself with events that particular morning before then?

NURSE B: I received a handover from Lucy.

ASTBURY: And were you made aware that, firstly, [Baby G] had had a vomiting episode at about 10.15?

NURSE B: Yes.

ASTBURY: And were you also told that Dr Chang, who was one of the registrars that we've seen on the representation here, had attempted to cannulate [Baby G] that morning?

NURSE B: According to my statement, yes.

ASTBURY: Right. No recollection of it now, but that was gleaned from the notes as far as you can recall?

NURSE B: Yes.

ASTBURY: And eventually that cannulation had been successful?

NURSE B: As far as my statement goes, yes.

ASTBURY: Thank you. And as far as you were aware, antibiotics had been administered in the event that [Baby G] had an infection at that stage?

NURSE B: Yes.

ASTBURY: So that's, as it were, setting the scene for your taking over. Was there any particular reason, can you remember, why you took over from Lucy Letby late that morning?

NURSE B: I was following orders from the shift leader, Caroline Bennion.

ASTBURY: Right. Okay. Is it likely to have been a workload issue?

NURSE B: Likely, but it would be for Caroline to comment.

ASTBURY: Very good, okay. When you took over [Baby G]'s care, do you recall where she was?

NURSE B: She was in nursery 4.

ASTBURY: Do you remember in what position in nursery 4?

NURSE B: Yes.

ASTBURY: Do you remember where the cot was?

NURSE B: Yes, she was, as you walked through the door, on the right-hand side by the window.

ASTBURY: Okay. From your experience of [Baby G], were you familiar with [Baby G]'s presentation on the occasions that you had cared for her in the past?

NURSE B: As in her...?

ASTBURY: Her colour, any particular foibles she had, any features of her presentation?

NURSE B: Um... It depended on the day --

ASTBURY: Okay.

NURSE B: -- I guess, yes.

ASTBURY: Okay. How did you find [Baby G] to be on the occasion you did take over on that day?

NURSE B: On the 21st?

ASTBURY: Yes.

NURSE B: She was pale, she was quiet, which did not appear her normal presentation.

ASTBURY: Right.

NURSE B: And she had a high heart rate, according to the monitor, and from the observation chart, which I took over.

ASTBURY: Okay. You described her as pale. Is that paler than usual?

NURSE B: Yes.

ASTBURY: When you'd been told about the vomit earlier in the morning, did that strike you as unusual at all?

NURSE B: Um... I don't remember now, but from reading my statement -- I have said in my statement, which I remembered at the time, I don't remember [Baby G] to be what you would class as a vomit-y baby. Some babies can vomit with every single feed, even more than once, but I don't remember, according to my statement, [Baby G] being a vomit-y baby.

ASTBURY: Okay. Anything strike you about the fact that [Baby G] had remained in nursery 4 when you'd taken over her care?

Anything unusual about that?

NURSE B: No, because she wasn't on any breathing support, she did not have any breathing concerns.

ASTBURY: All right. You mentioned that you took over, as it were, the observations of [Baby G]. I wonder if we could look then, please, at tile 61, Mr Murphy.

My Lord, this is the form that in fact is at the very front of the jury's bundle behind divider 8.

If we put it up on the screen for [Nurse B], please.

We can see from the top there, this spans the 20th and 21 September.

NURSE B: Yes.

ASTBURY: We can see the times. We're able to span a slightly longer period because they are not being taken on the hour, certainly at the start of the form.

NURSE B: Yes.

ASTBURY: Three-hourly intervals, I think.

NURSE B: They would have been taken if -- she was probably on three-hourly feeds, so they will have been taken with every feed.

ASTBURY: If we scroll to the bottom we can see, I hope, a series of initials which you will recognise.

NURSE B: Yes.

ASTBURY: If Mr Murphy is able to transpose the times, we can see -- perhaps highlight the entire column just to see the time

when you first enter your initials, [Initials of Nurse B], to the right. Just while we are waiting, those initials to the left, do you recognise those, where the arrow is pointing?

NURSE B: That's Lucy Letby.

ASTBURY: From whom you took over?

NURSE B: Yes.

ASTBURY: And then we can see there -- thank you very much, Mr Murphy -- you appear at -- the first time entered above your initial is 12.45, which would be consistent with you taking over late that morning.

NURSE B: Correct.

ASTBURY: Thank you. Then if we perhaps get rid of the lower portion, please, so we can see the entries that you made. We can see in respect of heart rate, something of a spike around 11 o'clock; would you agree?

NURSE B: Agree. Higher end of normal.

ASTBURY: Yes. Then by the time your entry of 12.45 is made and thereafter, much lower down in the scale and closer to the centre of that white band, which we're told is the non-concerning band, if I can put it that way --

NURSE B: Correct.

ASTBURY: -- so what would be expected to be normal in the case of a baby in her position?

NURSE B: Correct.

ASTBURY: Looking at the respirations, similarly, those times (sic) started, when you took over, a little on the high side but then fell back to a more normal rate, although just at the end of the shift rising again.

NURSE B: Yes, they're all within normal parameters. The one at 11, which isn't my signature, is almost out of range, but the rest would be within normal parameters for a baby of [Baby G]'s gestation.

ASTBURY: Thank you. I think there's a third set of results, again, which all remain within the normal parameters.

That's the baby's temperature.

NURSE B: Um... So the temperature, as I am checking it, is within normal range, but prior to that she has had a drop in temperature on four occasions prior to me taking over on that chart.

ASTBURY: Perhaps if we scroll down and see who's made that particular entry. So that would have been the last entry made by Nurse Letby before you took over.

NURSE B: Yes.

ASTBURY: I'm wondering if we can make out the handwriting above the entry in the column. Could we possibly enlarge that, Mr Murphy, please?

I could guess what it says. Are you able with your experience to make out what it says?

NURSE B: I don't think I can, actually.

ASTBURY: I think it may coincide with intubation, but --

NURSE B: She wasn't intubated at this time.

ASTBURY: Okay. Well, perhaps someone else will have to assist with what that says. Not your handwriting, I take it?

NURSE B: No. Whatever it says is to do with -- it's either the change that Lucy has made or the situation that occurred that she had the low temperature. She may have been undressed for the cannulation. I honestly can't tell what that says.

ASTBURY: Okay. Well, thank you.

Do you recall the type of monitor to which [Baby G] was attached when you took over her care that morning?

NURSE B: I do.

ASTBURY: What was it, please?

NURSE B: It's called a Masimo monitor.

ASTBURY: Okay. Is that the portable version of the monitor?

We have seen a fixed Phillips version and a portable version, which is attached to the baby with a wrap around their limb and a sensor to take the readings.

Is that the Masimo monitor?

NURSE B: The Philips monitor that you're referring to, the fixed one, can record full ECG monitoring, respiratory rate monitoring, oxygen level monitoring, blood pressure monitoring. But the Masimo monitor, which I've said that [Baby G] was on, on this one, is just the heart rate and oxygen levels. It doesn't have any of the other features.

ASTBURY: Right. So is that a reflection of the fact that she's moved away from intensive care and high dependency to the special care as it were (overspeaking) --

NURSE B: She's now special care, yes.

ASTBURY: We've seen a video, and correct me if I'm wrong, but the monitor is attached with a light sensor, which wraps around -- does it begin with a piece of velcro, is it, that wraps around the baby's foot or hand?

NURSE B: You can have non-disposable probes, or you can have almost like a plaster one, and then you have an additional velcro secure mechanism to go round.

ASTBURY: And do you happen to recall which one of those it was that [Baby G] had attached to her?

NURSE B: I believe it was the disposable one.

ASTBURY: Right, okay. And you've told us that would presumably show on the monitor the heart rate and the saturations; is that right?

NURSE B: Correct.

ASTBURY: Okay.

NURSE B: Not ECG of the heart rate, just the number.

ASTBURY: Right, okay. If that came displaced, was there an alarm that would activate on the Masimo?

NURSE B: Yes.

ASTBURY: If the readings exceeded or went below the parameters set into the monitor, would that also activate an alarm?

NURSE B: Yes.

ASTBURY: And how would that alarm be silenced or reset if it was activated?

NURSE B: There's a silence button on the monitor, which silences -- we don't have these monitors anymore.

I think it's 60 seconds, but you'd have to check.

ASTBURY: Okay. And can a monitor be switched off altogether to avoid the alarm being activated?

NURSE B: Yes.

ASTBURY: Are there different types of alarm on the Masimo monitor?

NURSE B: I think there were two or three types of alarms on the monitor.

ASTBURY: And why or for what purpose were there different types of alarm? Did they relate to different issues?

NURSE B: Yes. So one would just be, because it ran on battery as well as being plugged in, because it was portable monitor, so it would alarm if you'd forgot to plug it in, if it wasn't charging, if it was running on a low battery, it would alarm then to remind you. There'd be two different sounding -- sorry, we've not had these monitors for 2 years now.

ASTBURY: If you don't remember, please say so.

NURSE B: Yes. It alarms if out of parameters or if the probe becomes dislodged at all -- and definitely one for battery power.

ASTBURY: Okay. So one particular type of alarm for readings that aren't right, aren't correct?

NURSE B: Correct.

ASTBURY: Another type if that sensor that you described to us being attached to the baby, perhaps with a velcro back-up, becomes detached and therefore there's no readings at all?

NURSE B: Yes.

ASTBURY: Or if the power fails because of the batteries?

NURSE B: Yes.

ASTBURY: Okay. All right.

You told us, I think, that that can be silenced for 60 seconds if a button is pressed?

NURSE B: Yes, 1 to 2 minutes, yes.

ASTBURY: Or, alternatively, to effectively -- the alarm itself -- sorry, the device could be switched off --

NURSE B: Yes.

ASTBURY: -- which would also cause it to be silent?

NURSE B: Yes.

ASTBURY: All right. We've looked at your observations there on tile 61. Could we go to 63 next, please, Mr Murphy? We don't need to go behind these, but it would seem, as we looked at yesterday, at 12.51, yourself and your colleague, Caroline Oakley, administered cefotaxime to [Baby G] at 12.51.

NURSE B: An antibiotic, yes.

ASTBURY: Thank you. Then at 12.52 it appears that was entered on to the computer in the usual way.

NURSE B: Yes.

ASTBURY: If we go on to tile 69, please, and look at the document behind that. This is a feeding chart. We can see on the feeding chart, first of all, in the left-hand column the corrected gestation for [Baby G], which was precisely 40 that day.

NURSE B: Due date, yes.

ASTBURY: Then if we look across the columns, just dealing with the shift that I'm asking you about, at 9.15, we have a feed of expressed breast milk; is that right?

NURSE B: That's what it says, yes.

ASTBURY: Thank you. 40, that will be millilitres, I assume?

NURSE B: Yes.

ASTBURY: Via the nasogastric tube?

NURSE B: Yes.

ASTBURY: And then endorsed:

"30ml [I think that's times 2] milk projectile vomit."

NURSE B: That's what it says, yes.

ASTBURY: Thank you. Reading across, then a figure of 9.2?

NURSE B: That would be blood sugar.

ASTBURY: That's in the blood sugar column, just. And then we can see --

NURSE B: That might be a 4.

ASTBURY: Okay. Then we've got "BO +++".

NURSE B: Bowels open a lot.

ASTBURY: "Loose, watery, green."

NURSE B: Yes. So abnormal.

ASTBURY: Okay. Then is that "review by doctors"?

NURSE B: Yes.

ASTBURY: Then the next row down, a slightly different form, but that looks like your signature; is that right?

NURSE B: Yes. So that's me highlighting -- because this was [Baby G]'s feeding chart, so upon my takeover she's been switched to the IV infusion chart. NBM means nil by mouth. So I have put "nil by mouth, see IV chart", and put a line through all the other columns because it's no longer applicable.

ASTBURY: Then we have got an entry at 14.00 where it's simply recording -- that's the blood sugar level?

NURSE B: Blood sugar, 4.7.

ASTBURY: Okay. Tell us, please, 4.7?

NURSE B: Normal.

ASTBURY: Normal, thank you. Then again we recognise those initials to the right-hand side.

NURSE B: Yes.

ASTBURY: So for that early part of the shift we've seen the observations chart showing the heart rate and the temperature and the respirations, we have seen the entries on the feeding chart. I'd like to ask you, please, about events that then followed after about 2 o'clock when you made that entry. If we

could begin, please, with tile 72 and look at the notes that you made retrospectively at about 17.20 that evening.

I think it's probably the note below. They're not quite in time order. Sorry about that.

So this, I think, summarises, by about 17.20, how the afternoon has unfolded and I'll ask you some questions in the hope that you can remember a little bit more detail.

NURSE B: Okay.

ASTBURY: "Care taken over at around 11.30 due to staff workload. [Baby G] pale [as you have told us] and sleep in her cot. Masimo monitor in situ. Self-ventilating in air."

So no breathing support at that stage:

"Initially tachycardic at 175."

That, I think, would be the higher of those dots that we saw on the observation chart; would that be right?

NURSE B: Correct.

ASTBURY: Approaching that yellow band, which is an alert?

NURSE B: Yes.

ASTBURY: Okay. That was following a vomiting episode documented by Nurse Letby in previous notes:

"Cannula inserted first attempt by Registrar Chang but would not advance past..."

And I think we start at the top of the next column:

"... junction but able to give IV ABs."

NURSE B: Intravenous antibiotics.

ASTBURY: Via presumably that cannula?

NURSE B: Yes, that just means that we've been able to give medicine -- veins can split in all different ways, so we've been able to give the medicine but then it's had to come back out again. You can't put fluids through it, so it's become not usable past that point.

ASTBURY: So able to administer the antibiotics but then had to remove. Is that the understanding?

NURSE B: That looks like what my notes say, yes.

ASTBURY: "Bloods obtained for culture. CRP 18, HB 95. Lumbar puncture required due to symptoms but not yet performed."

Then numerous failed attempts at cannulation. Is this now moving later into the afternoon?

NURSE B: This is through that period of time, yes.

ASTBURY: So between 2 o'clock and 17.20; is that about right?

NURSE B: It might have even been earlier than that.

ASTBURY: Okay:

"Finally inserted by Dr Gibbs. Without fluid for 6 hours."

So does that assist with when -- from your notes when the cannulation was successful?

NURSE B: I'd have to see when the IV fluids were commenced, but that highlights why I've checked the blood sugar on [Baby G] because we have acknowledged she's not had two feeds because she was on three-hourly feeds. We've not been able to give her IV fluids because she's not had the cannula, so we've been checking her blood sugars.

ASTBURY: Okay. And that absence of fluid for 6 hours is because she's nil by mouth?

NURSE B: She's nil by mouth and she doesn't have a cannula, so we can't give her IV fluids.

ASTBURY: "Blood sugars were stable throughout and oral medications omitted as per Registrar Chang."

So that was the doctor's advice at that stage?

NURSE B: Yes.

ASTBURY: It goes on:

"Further significant apnoea/brady/desat following cannulation, requiring Neopuff and 100% oxygen. Help summoned and transferred to nursery 1 and placed in incubator for close observation."

NURSE B: Yes.

ASTBURY: "IV fluids commenced 10% dextrose."

And the rate there of 120ml/kg/day. You have noted that:

"[Baby G] passed urine, her bowels opened (a yellow mucousy stool). Optiflow commenced [so no longer self-ventilating] as per Registrar Chang at flow of 5 litres in air."

NURSE B: Yes.

ASTBURY: Does that mean it was no additional oxygen, it was simply air being administered by Optiflow rather than leaving [Baby G] to breathe for herself?

NURSE B: She was breathing for herself but with support from the Optiflow, but with no additional oxygen supplementation.

ASTBURY: Thank you, okay. So going back to that cannulation and events that followed, who was it who noticed that Dr Chang's original cannula wasn't working properly?

NURSE B: I don't remember.

ASTBURY: You told us you're not sure of the time that it happened, but we've seen Dr Gibbs' name mentioned in the note. Did somebody else come along to try and complete the cannulation?

NURSE B: Registrar Dave Harkness was with Dr Gibbs, yes. He was supporting him.

ASTBURY: And did they come together or did they come separately?

NURSE B: They came together.

ASTBURY: All right. Was the purpose of their arrival to attempt cannulation, Dr Chang not having been able to do so --

NURSE B: Yes.

ASTBURY: -- permanently or substantially?

NURSE B: Can you rephrase?

ASTBURY: Because Dr Chang's cannulation hadn't succeeded properly --

NURSE B: She's called on her senior, which is Dr Gibbs.

ASTBURY: Thank you. Sorry. A very poorly worded question. My fault.

So they arrived. Is [Baby G] still in room 4 at this point?

NURSE B: She is.

ASTBURY: And was [Baby G]'s mum there at this stage?

NURSE B: She was when I took over the care and then, when Dr Gibbs and Dr Harkness came to perform the cannulation, she excused herself and went to the family room.

ASTBURY: In order to cannulate, are there any particular measures taken within the room itself?

NURSE B: If there's other families in the room then the nursery was very small, so a screen would be put round, very similar to this (indicating) --

ASTBURY: Right.

NURSE B: -- for privacy for the baby.

ASTBURY: Okay. And do you recall whether other parents were in the room at that time?

NURSE B: I believe there were.

ASTBURY: Do you remember how many other babies were in the room at that time?

NURSE B: It was a busy nursery.

ASTBURY: What was the capacity of room 4?

NURSE B: Four, occasionally five.

ASTBURY: But you can't remember precisely how many in there that afternoon?

NURSE B: According to my statement, I think I've said a minimum of three, two to three.

ASTBURY: Which, I think, would accord with the plan that we saw earlier on?

NURSE B: Yes.

ASTBURY: Okay. Did you go behind -- well, did the doctors then go behind the screen to attempt cannulation?

NURSE B: They did.

ASTBURY: And did you go with them?

NURSE B: At times, yes.

ASTBURY: Okay. "At times", does that mean you weren't there all the time?

NURSE B: That's correct.

ASTBURY: Did you go behind the screen from time to time?

NURSE B: Yes.

ASTBURY: Are you able to say how long their attempts took to cannulate?

NURSE B: A little while.

ASTBURY: That could mean different things to different people.

NURSE B: Um... It's so long ago. A cannula can go in within a minute. When I say "a while", it's at least a few minutes, if not longer.

ASTBURY: Okay. All right. So how many times do you think you went behind the screen to --

NURSE B: Several. I still had my other workload at that point, so I was going to ensure that those babies were okay.

ASTBURY: Okay. So do I get the picture, it's back and forth?

NURSE B: Back and forth. She was with a consultant and a registrar, she was perfectly safe.

ASTBURY: Of course. I asked you earlier on about [Baby G]'s monitor.

Do you recall what happened to [Baby G]'s monitor whilst the cannulation was going on?

NURSE B: I remember the monitor, the sticky part of it, being switched from limb to limb so they could see the veins in different parts of [Baby G]'s body (indicating).

ASTBURY: Okay. Obviously, the tape doesn't pick it up and others wouldn't have seen this because of the screen, you indicated, I think, both hands when you said --

NURSE B: Hands, wrists, feet, ankles.

ASTBURY: So did you see all of those areas being attempted and the probe being moved from one to the other?

NURSE B: I don't remember how many times it was moved.

ASTBURY: But you recall the probe being moved from time to time when you went behind the screen?

NURSE B: Yes, I do.

ASTBURY: But not precisely where it was on each occasion you went?

NURSE B: Yes.

ASTBURY: On those occasions when you went behind the screen, were the doctors still attempting to fit the cannula?

NURSE B: They were.

ASTBURY: We can see from your note that eventually they succeeded, one or the other. What happens once the doctor succeeds in fitting the cannula? What would you expect to happen?

NURSE B: I would expect the screen to be removed, the baby to be placed back in the cot because babies normally are popped on to what's called a procedure trolley, and for the doctor to come and let their allocated nurse, or at least someone, know that they'd completed the procedure and the baby was back now where they should be.

ASTBURY: So I think I obviously missed this: was [Baby G] out on a trolley when this was going on?

NURSE B: I believe she was.

ASTBURY: Right. Having successfully fitted it, you would have expected the doctors to notify a nurse in the room or nearby?

NURSE B: It should ideally be the allocated nurse, yes.

ASTBURY: You told us you had other babies. Did you leave the room from time to time?

NURSE B: I did.

ASTBURY: Did anyone else have babies in that particular room?

NURSE B: Lucy did.

ASTBURY: Okay. And when they were attempting to fit the cannulas and you were popping your head in and out, were you aware where Lucy was on those occasions?

NURSE B: I don't remember now.

ASTBURY: But she had a baby in the room?

NURSE B: At least one.

ASTBURY: Okay. So the doctor would finish on the trolley, would then let preferably the designated nurse know, or at least a nurse know, that they'd completed what had gone on, the screens would be removed, the baby placed back in their incubator or cot, sorry?

NURSE B: Yes. If they were in an incubator, you wouldn't need the procedure trolley. It's if they're in a cot that --

ASTBURY: Because of course this is room 4, isn't it?

NURSE B: They could be in an incubator in room 4.

ASTBURY: Do you remember that [Baby G] was in a cot?

NURSE B: [Baby G] was in a cot.

ASTBURY: All right. So when did you next see [Baby G] then, she having been cannulated?

NURSE B: When Lucy called for help.

ASTBURY: So where was Lucy when she called for help?

NURSE B: Beside [Baby G].

ASTBURY: Where were you when Lucy called for help?

NURSE B: I don't remember exactly, but not far away, because I heard her shout for help.

ASTBURY: Were you in the room?

NURSE B: No.

ASTBURY: When you heard Lucy shout for help, what did you do?

NURSE B: I went to the door of nursery 4.

ASTBURY: Okay. What did you see when you got to the door of nursery 4?

NURSE B: That Lucy was responding appropriately, she was -- it was either a Neopuff or a bag and mask, whichever equipment was available in that space, and she was providing breathing support for [Baby G].

ASTBURY: Okay. Where was the screen when you went back in room 4?

NURSE B: The screen was still there.

ASTBURY: Still in the position that you'd left it?

NURSE B: Yes.

ASTBURY: The screen being where you'd left it, could you actually see Lucy when you went back into nursery 4?

NURSE B: Yes.

ASTBURY: Explain to us how that was so if the screen was still in place.

NURSE B: [Baby G] was here (indicating) and the screen was here (indicating) to protect the families. The other side of the screen was --

ASTBURY: I see, right.

NURSE B: -- here (indicating) and the door is on the right -- was on the right-hand side of the -- this was a wall, a fixed wall, so the door's here (indicating). I had the clear view because the screen was here (indicating).

ASTBURY: Okay.

MR JUSTICE GOSS: Could you see that?

MR ASTBURY: I'm going to run through that again because obviously --

MR JUSTICE GOSS: I very much doubt whether the jurors --

MR ASTBURY: I didn't want to interrupt, but we'll go back.

So, the screen was in a position so that it masked [Baby G] from others in the room, for example the parents that you mentioned before?

NURSE B: Correct.

ASTBURY: Okay. But I think, with your very helpful demonstration, you showed yourself coming in through the door and the screen was positioned in such a way that you could see behind it?

NURSE B: Yes.

ASTBURY: But obviously whoever those parents had been, or other people in the room, would not have been able to see behind it.

NURSE B: No.

ASTBURY: So you had a different view from the door than those who would have been in the body of the room?

NURSE B: Correct.

ASTBURY: So when you came in, you could see Lucy and where was she in relation to [Baby G]?

NURSE B: Beside her.

ASTBURY: What was she doing?

NURSE B: She was giving breaths to [Baby G].

ASTBURY: You indicated again -- this was a Neopuff device?

NURSE B: Neopuff or bag and mask, I'm not sure which one, whichever was available.

ASTBURY: Okay. Was the monitor still attached?

NURSE B: I don't know.

ASTBURY: You don't know?

NURSE B: No.

ASTBURY: Okay. You'd certainly noticed it was attached when you'd been going backwards and forwards behind -- when the doctors were there.

NURSE B: Yes.

ASTBURY: Is there any reason why -- well, let's concentrate on what you can remember first, okay? Tell us what Lucy was doing. Did she tell you anything?

NURSE B: She said that [Baby G] wasn't breathing and I could clearly see she wasn't. She didn't look well at all.

ASTBURY: And what did you see yourself of [Baby G], as you could see [Baby G]?

NURSE B: I could see she wasn't breathing and she was a poor colour. She wasn't moving.

ASTBURY: What do you mean by poor colour?

NURSE B: Well, she already looked pale.

ASTBURY: Yes.

NURSE B: But she was -- I don't remember, I just remember she just did not look well. What specific colour, I don't know.

ASTBURY: Okay. Do you remember making a statement during the course of this investigation?

NURSE B: Yes.

ASTBURY: And have you refreshed your memory from the statement today?

NURSE B: Yes.

ASTBURY: Do you remember whether -- were things at least fresher in your mind at the time you made the statement than they are now? I know the statement wasn't made until 2 March 2018, so it was --

NURSE B: In terms of the colour, I don't remember.

ASTBURY: Okay. In terms of the alarm and whether it was attached?

NURSE B: I don't remember if it was attached. The monitor wasn't on.

ASTBURY: The monitor wasn't on?

NURSE B: No. I don't remember if it was attached but the monitor wasn't -- the actual physical screen was off.

ASTBURY: Right, okay. So going back to what you told us before about alarms and silencing alarms and the ability to actually switch the monitor off, it had been switched off?

NURSE B: Yes.

ASTBURY: On those occasions when you'd gone behind the curtain and you'd seen -- you recall seeing it attached to the baby, albeit in different places, was it switched on on those occasions?

NURSE B: It was, yes.

ASTBURY: Do you recall how Lucy seemed when you saw her behind the screen assisting [Baby G]?

NURSE B: She obviously was concerned --

ASTBURY: Yes.

NURSE B: -- and she was responding appropriately.

ASTBURY: Right. Now, you weren't in a position to help at that stage, so I think you shouted for Caroline Bennion; is that right?

NURSE B: That's correct.

ASTBURY: And I think Caroline came very quickly and assisted Lucy Letby?

NURSE B: She did.

ASTBURY: Do you recall the two doctors coming back?

NURSE B: No, I'd excused myself.

ASTBURY: Okay. All right. Was [Baby G] then -- did [Baby G] respond to the treatment that she was given?

NURSE B: Yes, very quickly.

ASTBURY: And having responded to the treatment, was she at least at that stage stabilised in the unit?

NURSE B: She was moved to nursery 1 --

ASTBURY: Right.

NURSE B: -- went on to Optiflow, put on to the full monitoring, and under very close observation.

ASTBURY: Did you continue care for [Baby G] once she was moved into room 1?

NURSE B: Yes.

ASTBURY: Okay. Was [Baby G]'s mum informed of what had happened?

NURSE B: She was informed of [Baby G] stopping breathing, yes.

ASTBURY: Did she come back to the unit?

NURSE B: She was already on the unit. She was in the family room. She came of course, yes, immediately.

ASTBURY: Once [Baby G] was moved to room 1, I think -- was she placed in an incubator at this point?

NURSE B: She was, yes.

ASTBURY: And was she placed in an incubator now without clothes, so her colour could be, as it were, monitored more closely?

NURSE B: Yes.

ASTBURY: I think you mentioned that she was put on Optiflow at that stage.

NURSE B: Yes.

ASTBURY: Do you remember anything about [Baby G]'s tummy when she was moved to number 1?

NURSE B: According to my statement I've said her tummy was normal. Her poos were abnormal, but her tummy was normal.

ASTBURY: Thank you. And did you continue to care for [Baby G] for the rest of the shift on a one-to-one basis?

NURSE B: I don't remember.

ASTBURY: Okay. All right. Perhaps if we can look at initially tile 78, please, Mr Murphy.

That, as it were, is the continuing observation chart from 4 o'clock. I wonder if we could go to tile 83, please. We probably don't need to look at that again, I apologise. If we go to tile 83. We can have a look at that, please.

A form that you will be familiar with, nurse. It's, as it says, the intravenous and subcutaneous infusion prescription chart. We can see, I think, there an entry crossed out and a little later another entry, which is dated 21 September. Is that an entry that you recognise or is that after you finished your shift?

NURSE B: No, that's my...

ASTBURY: It's just a little bit difficult to make out.

NURSE B: No, I think that is my signature there with Yvonne Farmer on the second line down.

ASTBURY: We can see the date it started.

NURSE B: Yes.

ASTBURY: Not so easy to make out the time. Do you happen to recall what time that started?

NURSE B: No. I've said in my patient notes, though, that I commenced it.

ASTBURY: Sorry, commenced that?

NURSE B: I don't know. I said in my patient notes that I had commenced it, but (overspeaking) --

ASTBURY: Without a specific time?

NURSE B: -- which we looked at earlier.

ASTBURY: Do you happen to recall whether that was after [Baby G] had been moved to room 1?

NURSE B: It was, yes.

ASTBURY: All right. We looked at some of the management staff that were on duty on the ward, albeit not at that time with clinical responsibilities. Did you speak to any of the management about what had happened or what you'd seen that afternoon?

NURSE B: I did, yes.

ASTBURY: Who did you speak to?

NURSE B: I spoke to the shift leader, Caroline Bennion, and the ward manager, Eirian Powell.

ASTBURY: I think about a month ago, you contacted the police to tell them about another conversation you had that afternoon on the ward; is that correct?

NURSE B: That's correct.

ASTBURY: And it was to do, I think, with you finding the monitor switched off when you came to -- when you responded initially to Lucy Letby's call for help; is that right?

NURSE B: That's correct.

ASTBURY: I didn't ask you this and I should have: when it was switched off, could you actually see whether it had been physically switched off? Would you see the on/off button at all?

NURSE B: So it was a black screen, which means it's off. Yes, it was off.

ASTBURY: Who was that other conversation that you remembered last month with? The more recent conversation.

NURSE B: As in who...?

ASTBURY: Who was the conversation with.

NURSE B: Who I've reported it to?

ASTBURY: Yes.

NURSE B: DC Millins.

ASTBURY: Right. What was it you told DC Millins?

NURSE B: I told her that I had read the opening speeches online and it suggested that Lucy had switched off the monitor --

ASTBURY: Right.

NURSE B: -- whereas I knew that not to be -- well, as far as I know, not to be the case.

ASTBURY: Okay. As far as you know, how is that so?

NURSE B: Because Dr Gibbs and Dr Harkness told me after the event that they were very sorry that they'd left [Baby G] behind the screen, that they hadn't moved the screen away, and that they'd left her without a monitor.

ASTBURY: Okay. How did that conversation come about?

NURSE B: Eirian must have spoken to them or they've gone to Eirian and told her that's what's happened because I've gone to Eirian and told her that the monitor's off -- I didn't know at that time how or why it was off because it's not normal protocol.

ASTBURY: All right. So it obviously stood out to you, so you told Eirian that the monitor had been switched off?

NURSE B: Yes.

ASTBURY: Do I understand it right that you understand that it was Eirian to whom Dr Gibbs and Dr Harkness spoke?

NURSE B: I don't know what conversations they had with each other. I know I went to Eirian and Caroline Bennion, the shift leader, and I told them that when the shout for help came the response appeared normal but the monitor was switched off.

ASTBURY: Okay. I just want to clarify, I'm sorry. Did you speak directly with Doctors Harkness and Gibbs about it?

NURSE B: Yes, I did.

ASTBURY: Okay. Putting aside what others may have been told or what others may have told you, can you remember exactly the conversation you had with Doctors Harkness and Gibbs?

NURSE B: No one has said anything to me about it and I have not discussed it with anyone.

ASTBURY: No, no, I mean that afternoon.

NURSE B: That afternoon they came to me, very, very apologetic, very concerned that the screen had been left in situ and they hadn't come to tell me that they had finished with the care with [Baby G] at that time --

ASTBURY: Right.

NURSE B: -- and they had not switched the monitor back on.

ASTBURY: So this was a conversation directly with you?

NURSE B: Yes, 100%.

ASTBURY: And do you remember where it took place?

NURSE B: Yes, in the corridor just outside nursery 4.

ASTBURY: Okay. Can you remember how long after the incident this conversation took place?

NURSE B: During that afternoon.

ASTBURY: Was it immediately after, was it after you'd been to Eirian and told Eirian what you were concerned about?

Was it before that? Can you put it in the timeline anywhere?

NURSE B: No, I'm sorry, I can't.

ASTBURY: Okay. Again, if you can't help, please tell us, was it still daylight when you had the conversation? It was September so it might help where it was in your shift.

NURSE B: Well, it was during managerial working hours, put it that way, which end at no later than 6.00.

ASTBURY: Okay. So some point before 6 o'clock, but obviously after the event?

NURSE B: After the event, yes.

ASTBURY: And forgive me, just before or after you'd spoken to Eirian, are you able to say?

NURSE B: I don't know.

ASTBURY: All right. Was it both of the doctors who said it or just one of the doctors?

NURSE B: They were both present. I don't know who said it.

ASTBURY: Okay. So one said it in the presence of the other?

NURSE B: They both might have said it, I don't know. I just know I was with them and one or both told me that it happened.

ASTBURY: Okay, all right. And you first remembered this conversation when you read the opening from the trial; is that right?

NURSE B: I'd remembered it all the way through.

ASTBURY: Right.

NURSE B: When I read it in the opening speeches, I asked DC Millins if I could review my statement and listen to my transcript, which I hadn't previously done so, because I believed that I had already said that during the original statement.

ASTBURY: The jury have heard this before, but the process for taking your statement was that you were recorded -- audio recorded by the police.

NURSE B: Yes.

ASTBURY: In some detail, was that right?

NURSE B: Yes.

ASTBURY: Then a witness statement provided from that recording?

NURSE B: Yes.

ASTBURY: Which you were then given the opportunity to read, check, and sign if you were content with it?

NURSE B: Correct.

ASTBURY: And again, just so I understand, the information that you gave DC Millins about a month or so ago, was that in the recording or the statement?

NURSE B: The conversation was not in the transcript, but the detective that interviewed me asked me, "Is this normal procedure?", and I've said no. And he's -- I can't remember now, but it's in the transcript, which is available, I've seen it this morning. I have said that is for Dr Gibbs and Dr Harkness to comment, but obviously 4 years have passed but I thought I'd told the conversation but I hadn't.

ASTBURY: You have checked the transcript, it's not actually in there, but you have told us what is in the transcript on that subject?

NURSE B: Yes, I've told them, I've told the detective: you need to ask them, I wasn't present for whatever went on with that monitor, you need to ask them themselves what happened.

ASTBURY: Okay. Just to conclude your shift in comparison to our sequence of events chart, I wonder if Mr Murphy could go to 84, please, next.

If we can have a quick look behind it, please.

I think we got -- the top right box is your entry and I think there's an addendum just afterwards. We can have a quick look at that, please.

We can see the end of the entry we've just read, [Nurse B]. There's an addendum at about 18.40:

"Blood gas good this evening. Will repeat in 4 hours with blood sugar as 9mmols."

NURSE B: 9 millimoles, yes.

ASTBURY: I think if we then go to tile 89, please. I think it's the second entry down. Is that -- are they your initials, nurse?

NURSE B: The second one, yes.

ASTBURY: Thank you. If we scroll across, it's 18 something.

It's presumably the entry that you just commented upon in your notes --

NURSE B: Yes.

ASTBURY: -- is that right? Because we can see the glucose level is 9.

NURSE B: Yes.

ASTBURY: Just while we're on there, we can see the reference to Optiflow, the 5 litres that appears in your original note, and advice from Dr Harkness to repeat every 4 hours. What's that to be repeated every 4 hours, the blood gas?

NURSE B: Well, just based on this one, to repeat in 4 hours the blood gas with the blood sugar, and then, after the next one, they would determine when the one after would be.

MR ASTBURY: Thank you. Then I think there's one final addendum to your notes if we go to tile 90. It might be the same addendum, let's just check. Yes. I think it reappears because it was actually entered on the computer at 18.39. Thank you.

I have no more questions, but if you could wait there, please.

MR MYERS: The timing is probably a little tight for me to try to complete this by 4.15, my Lord.

MR JUSTICE GOSS: Yes. You'll be more than a few minutes.

MR MYERS: I think so, yes. Even going as quickly as I can, it would be impossible.

MR JUSTICE GOSS: That, I'm afraid, doesn't complete your evidence this afternoon. You'll have to come back tomorrow at 10.30 or to start at 10.30, please.

Thank you very much indeed. Obviously, don't talk to anyone about anything to do with this case in the meantime. All right?

So members of the jury, you know your obligations.

Thank you very much. 10.30 tomorrow morning, please.

(In the absence of the jury)

MR JUSTICE GOSS: If you just wait there, please. Everyone else will leave the court and then someone will escort you from the courtroom.

NURSE B: Thank you.

MR JUSTICE GOSS: Thank you very much. I'll rise.

(4.12 pm)

(The court adjourned until 10.30 am on Wednesday, 14 December 2022)