

24 November 2022

Baby F

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Housekeeping

Thursday, 24 November 2022
(10.30 am)

(In the absence of the jury)

Housekeeping

MR DRIVER: My Lord, to seek to maintain a smooth flow of evidence and to combat certain logistical complications as have arisen this morning through traffic difficulties and the like, two matters. One, the evidence will not be presented in necessarily chronological order.

[Dr C] will give her evidence first, and secondly, at three points in time today we will play video representations to ensure that there are no unnecessary gaps.

MR JUSTICE GOSS: Thank you very much indeed, Mr Driver.

Jury, please.

(In the presence of the jury)

MR DRIVER: May I recall [Dr C], please. I state for the record that there is a reporting condition attaching to this witness and her evidence.

[DR C] (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: I appreciate you have been with us previously, but could you state for the record your full name, please?

DR C: I'm [Dr C].

DRIVER: And I'm sure you appreciate you're still bound by the same oath or affirmation that you took previously --

DR C: Yes.

DRIVER: -- when you were with us to give evidence pertaining to [Baby E]. And I assume you'll anticipate that you've been invited here today to answer questions relating to his twin brother, [Baby F].

Were you a treating physician in relation to [Baby F]?

DR C: I didn't have any direct care with him. I was one of the consultants covering a hot week system towards the end of his admission at Chester when some of his blood results came back but I didn't have an active treating role.

DRIVER: Thank you. We'll go to those results and consider where they fall on our chronology. With Mr Murphy's assistance, please, could we go to tile 381.

It records that a junior colleague of yours, Dr Katherine Lyddon, F2. Decode that for us, please?

DR C: That's a foundation level 2 doctor, that's someone in their second year of training after qualifying from university, their second year of practical training.

DRIVER: So with the greatest of respect to the doctor, a very junior colleague of yours?

DR C: Yes.

DRIVER: Could we click behind and see her notes. Go to the original, please. Scroll down.

Firstly, let's look at -- scroll down to 13 August at 10.30. Would the process be, could you confirm or elaborate, this doctor being such a junior colleague of yours, that her findings on examination or any data received by that doctor would be reported upstream, as it were, to you, her consultant?

DR C: Yes. Either directly or indirectly through the other junior doctors in between her level and mine.

DRIVER: I'm grateful. So decoding this note for us, does it read that she, Dr Lyddon, received information from, firstly, the Liverpool Women's Hospital?

DR C: Yes.

DRIVER: It would seem pertaining to some genetic tests or checks that had been undertaken?

DR C: Yes. So [Baby F], as part of his antenatal management, was found to be at high risk of having trisomy 21 or Down's syndrome, so he had genetic tests sent following his birth. He didn't show any clinical features suggestive of that, but those can be difficult to spot in a preterm baby so one of my colleagues had requested the genetic tests. That shows no evidence of trisomy 21 or Down's syndrome. So that's a sort of interim result that means that Down's syndrome is extremely unlikely.

DRIVER: So data recorded antenatally caused the test to be undertaken?

DR C: Yes.

DRIVER: And is that routine when those antenatal indicators reach a certain threshold?

DR C: Yes.

DRIVER: But the results, as reported, from the testing hospital, as it were, Liverpool Women's Hospital, who undertook such tests on behalf of the Countess, came back negative --

DR C: Yes.

DRIVER: -- in short? The next set of data or information reads:

"Hypo screen results."

Could you decode that for us?

DR C: Yes. A hypo screen stands for hypoglycaemia screen, which is a set of blood tests we do when a baby has profound or persistent low blood sugars to try and see whether there's an underlying cause for that. Some of those tests are performed at the Countess and some of them are sent to another lab in Liverpool, so it sometimes takes some time to get those results back.

DRIVER: Pausing there, is it right that this sort of test would and was sent to the Royal Liverpool Hospital as opposed to the Liverpool Women's Hospital?

DR C: Yes, that's my understanding.

DRIVER: Are you able to interpret the results that were returned and received by -- considered by Dr Lyddon on 13 August?

DR C: Yes. The cortisol is a stress hormone in the body and that's a normal level.

DRIVER: Thank you.

DR C: The insulin level is -- insulin is a hormone that is made by the body in the pancreas to help regulate blood sugar. It's also a medicine that can be given as a drug. This insulin level is too high for a baby who has a low blood sugar. If a baby has a low blood sugar, you would expect their body to stop making insulin and for the insulin level to be low.

DRIVER: We'll return to that in a moment. Let's work our way down the remaining data.

DR C: When insulin is made in the body, it's made with C-peptides stuck to the insulin molecule. Then when the insulin is released, the C-peptide breaks off from the body's own insulin.

DRIVER: Could you enlighten us as to the relationship, one would anticipate between insulin and C-peptide levels?

DR C: If insulin was insulin that had been made by [Baby F]'s body, I would expect there to be a similar ratio of insulin to C-peptide, so I would expect the insulin C-peptide to also be high as well. And the fact that this is low means that it's likely that it was insulin given as a drug or as a medicine rather than insulin from [Baby F]'s own body.

DRIVER: As to that likelihood, we'll hear from, with great respect, from experts --

DR C: Yes, I would appreciate that, yes.

DRIVER: -- in due course.

MR JUSTICE GOSS: Someone with greater expertise than you in relation to this.

DR C: Yes.

MR JUSTICE GOSS: We did hear something of this from Dr Beech very briefly, but you're giving more details here in relation to this result.

MR DRIVER: But to recap, in short, naturally generated or created insulin, the levels of such insulin should be reflected --

DR C: Yes.

DRIVER: -- by the levels of C-peptide?

DR C: Yes. It's not an exact match, but you'd expect that to be raised significantly as well.

DRIVER: So the two are directly proportionate to each other?

DR C: Yes.

DRIVER: And hence these readings, what would they inform you of?

DR C: They strongly suggest to me that [Baby F] has been given insulin as a medicine, which -- the fact that the insulin is high is physiologically inappropriate and the fact that the C-peptide is low suggests that's insulin given as a medicine. This is something that we found very confusing at the time because [Baby F] had only been prescribed insulin 5 days previously.

We also looked to see if any other babies on the neonatal unit had been prescribed insulin at that time period, thinking about an accidental administration issue, and couldn't -- there weren't any other babies being given insulin at that time, so we were at a bit of a loss as to how to explain this.

DRIVER: Let's break that up into parts, if I may. You said the insulin level, ie the 4657 reading, was physiologically inappropriate.

DR C: Yes.

DRIVER: Could you explain that in (overspeaking) terms for us, please?

DR C: Your insulin levels should fluctuate based on what your blood sugar is doing, so if you have a low blood sugar, your body should stop making insulin. There are some medical conditions where that doesn't happen, but the C-peptide being low makes those more unlikely.

DRIVER: So the Countess, you, and we know from tests undertaken by nurses that this baby presented with low blood sugar levels?

DR C: Yes.

DRIVER: Is that the basis upon which you deem that reading, 4657, to be physiologically inappropriate?

DR C: Yes.

DRIVER: Is that conclusion 1?

DR C: Yes.

DRIVER: Conclusion 2: given that the insulin levels were recorded at 4657, the C-peptide levels did not correspond to that which you would expect if this was naturally generated insulin?

DR C: Yes, correct.

DRIVER: Because that should be high too?

DR C: Yes. My normal response for investigations that don't fit with what I would expect to see would be to repeat them to confirm that that definitely is the case. But because insulin fluctuates, depending on what your blood sugar is doing, because by this period of time [Baby F]'s blood sugars were now stable and normal there was no way to repeat those results.

DRIVER: To return to something else you told us, you queried whether or not he, [Baby F], had received manufactured insulin --

DR C: Yes.

DRIVER: -- man-made insulin --

DR C: Yes.

DRIVER: -- as a medicine?

DR C: Yes.

DRIVER: And you said in evidence that he had received some but, your words, 5 days before this, 13 August?

DR C: Yes. No, 5 days before his period of profound hypoglycaemia. I think it was in the early hours of 31 July, although that can be checked on the prescriptions, that he received some intravenous insulin with the trade name Actrapid. It's very much -- as it says on the tin, that's a rapid-acting form of insulin and most of the effect of that stops within 15

minutes of that no longer infusing. So several days later I would expect all of the effect of that insulin to have long gone from [Baby F]'s body.

DRIVER: Is it a matter of record that [Baby F] received that Actrapid very soon after birth, in the first day or so of life?

DR C: The first few days, yes.

DRIVER: Is that unusual in a preterm baby?

DR C: No. Some preterm babies do have problems maintaining their blood sugar and will have a high blood sugar, which requires treatment with insulin.

DRIVER: So let's return to Dr Lyddon's note.

"D/W [discussed with] [you]"?

DR C: Yes.

DRIVER: Then in note form, that which you've given to us in evidence:

"Insulin high, C-peptide low. Unusual for hypoglycaemia [low blood sugar]."

DR C: Yes.

DRIVER: And the next comment?

DR C: "As now well and sugars stable for no further investigations."

That alludes to the point I mentioned earlier that unusual or unexpected blood results I would always ideally like to repeat, just to confirm what we're dealing with, but that wasn't possible because of his blood sugars now being stable.

DRIVER: So the low blood sugar issue had by now, ie by the time of the receipt of this data from the Royal Liverpool Hospital to the Countess on 13 August, they'd resolved?

DR C: Yes.

DRIVER: And the final entry?

DR C: "If hypoglycaemia again at any point for repeat screen."

That's basically saying if [Baby F] was to have any further episodes of low blood sugar then at that point we should aim to repeat those investigations.

DRIVER: So as a marker for the future. Thank you.

Was anything done with this data or was it acted upon in any way at that time other than that marker?

DR C: I think we... I recall looking to see whether anyone else had been given insulin to see whether there was any possibility of an accidental administration but nothing else was done at that point.

DRIVER: And that, that investigation, that review, was that undertaken throughout the neonatal unit or just the particular nursery that [Baby F] was in?

DR C: No, throughout the whole neonatal unit.

DRIVER: So the question was: was anybody prescribed insulin at the time --

DR C: Yes.

DRIVER: -- that [Baby F] was presenting with low blood sugar levels?

DR C: Yes.

DRIVER: Answer no; is that correct?

DR C: Yes. That's correct.

MR DRIVER: Thank you. Could you remain there and answer any further questions?

Cross-examination by MR MYERS

MR MYERS: Just this, [Dr C]: one of the reasons that there was no further action than that was that in fact, once we get past 5 August, [Baby F]'s blood sugar seemed to be stable and there wasn't a repeat of whatever it was that had caused the issue?

DR C: Yes, that's my understanding.

MR MYERS: All right. Thank you.

MR DRIVER: Does your Lordship have any questions?

Questions from THE JUDGE

MR JUSTICE GOSS: Well, it was just that at that time that there were no babies on the unit who were prescribed insulin. Can you just identify the time more specifically?

DR C: That period of 4 to 5 August where [Baby F] had his low blood sugars.

MR JUSTICE GOSS: Right. So the 4th and the 5th?

DR C: Yes, the 4th and the 5th.

MR JUSTICE GOSS: Thank you. Thank you very much for coming back and giving evidence. I don't know, are you coming back again?

DR C: Not that I'm currently aware.

MR JUSTICE GOSS: Right. In which case thank you for coming on the occasions that you have and giving evidence to this court. Please do not communicate in any way with anyone else about this case until it's all over or anything to do with this case. Thank you very much.

DR C: Thank you.

(The witness withdrew)

MR DRIVER: My Lord, the next witness to call has been delayed but is expected relatively soon. However, rather than invite the court to break at this point, may we play for the jury a video demonstrating the use of some equipment that is relevant to this part of the case and the considerations pertaining to [Baby F]?

MR JUSTICE GOSS: Certainly.

MR DRIVER: RC.16.21, please, Mr Murphy.

(10.50 am)

(Video played to the court)

(11.06 am)

MR DRIVER: We seem to have come to an abrupt end there.

I will review that in due course. I wasn't expecting it to finish at that point.

MR JUSTICE GOSS: It didn't sound as though it had reached a finishing point at all.

MR DRIVER: We were expecting another 90 seconds. It can only be that the transfer of this video to Mr Murphy's system has been flawed in some way because the version we've looked at previously is a little longer.

MR JUSTICE GOSS: Ninety seconds longer?

MR DRIVER: Ninety seconds longer. May we come back to that later today?

MR JUSTICE GOSS: We'll come back. There was a lot of information in that particular video, but it's helpful to see the practical side of it.

MR DRIVER: Later today we'll be calling one of the nurses who involved herself in this sort of application with [Baby F] and we can replay it with that witness and she can assist us as to any detail.

MR JUSTICE GOSS: Thank you very much.

MR DRIVER: I'm grateful.

MR JUSTICE GOSS: Just in case, I don't know, there was a lot of information there and I expect the jury will want to see that, either in its entirety or parts of it again.

MR DRIVER: We'll replay it with [Nurse C] later today.

May I recall Dr John Gibbs, please.

DR JOHN GIBBS (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: Could I invite you to state your name for the record, please?

GIBBS: John Gibbs.

DRIVER: Dr Gibbs, as I'm sure you appreciate, you are still bound by the oath or affirmation that you took when you were last with us. We've invited you here this morning to provide evidence in relation to [Baby F].

Could you just remind the jury as to your professional status as of August 2015?

GIBBS: I was a consultant paediatrician working at the Countess of Chester Hospital at that time and I was the consultant of the week when [Baby F] and his twin brother were born.

DRIVER: Can you remind the jury what came with being consultant of the week?

GIBBS: It meant that all the babies born that week came under the care of myself or whoever else would have been consultant of the week. In Chester at that time, we covered the paediatric ward as well as the neonatal unit. The consultant would do a ward round, a full ward round, of the babies on the neonatal unit on a Wednesday and a Sunday, but also visited the unit every other day to check on how the babies were doing but didn't examine them all unless there was a particular issue.

One point that I didn't make last time I gave evidence that I think is quite important is that that style of covering a neonatal unit as well as a paediatric ward is common for a district general hospital. It is the practice that we'd followed for many years prior to 2015 and we weren't complacent about whether we were offering appropriate care for babies on the unit. We carefully monitored activity on the unit and each year we would look at the outcome measures, and a particular one, a crude but important one, was the number of babies who died on the unit. And every year up to 2015, our number of deaths on the neonatal unit were within the range expected for a unit of our type within our region, less than the national average, and yet with that same style of consultant cover, in 2015/2016, the number of deaths increased significantly.

So it wasn't the style of having to cover the neonatal unit and the paediatric ward that accounted for the change in deaths in 2015.

DRIVER: Thank you, Dr Gibbs. A professional elsewhere has the responsibility of noting the evidence given by witnesses and I've just received some feedback to the effect that the evidence you have just given was delivered too quickly for that person to keep up with the note. That explains why my attention was being drawn from behind.

So the system that you've just described, the consultant of the week with overall clinical responsibility for all the patients --

GIBBS: Yes, assisted by our junior doctors and nurses.

DRIVER: By a hierarchy of junior doctors and nurses was, is this right -- if I seek to summarise that which you have just said to us, had been in place for -- how many years did you say?

GIBBS: Oh, many years. I can't -- I think the whole 20 years I'd been in Chester.

DRIVER: And it was in place for those 20 years which began?

GIBBS: 1994 for me in Chester.

DRIVER: Thank you. And when did you cease to be a practising consultant at the Countess of Chester?

GIBBS: In 2019.

DRIVER: Did the same system prevail throughout?

GIBBS: No, it had changed later on, so that we had a consultant of the week on the neonatal side and a consultant of the week on the paediatric ward, but that changed after 2016.

MR JUSTICE GOSS: Different consultants, obviously -- or was --

GIBBS: Some additional consultants were appointed, but they were the same consultants who were working there, plus a couple of additional consultants.

MR JUSTICE GOSS: It is me being pedantic here: but the same person would not fulfil the role of consultant of the week in the neonatal unit and the paediatric ward?

GIBBS: That's correct.

MR JUSTICE GOSS: That's what I thought you meant but I just wanted --

GIBBS: Those sort of changes have happened in many district general hospitals in the last few years.

MR DRIVER: Is the evidence you were giving that whilst the same structures were in place for decades, from one particular year there was a marked difference in outcomes?

GIBBS: Yes. A marked difference in the number of deaths and the unusual and unexpected nature of those deaths.

DRIVER: We'll return to that with you in due course, but could I ask you for the moment, again, please to focus your attention on late July and early August of 2015 when you'd confirmed for us that you were consultant of the week when [Baby F] and his twin brother [Baby E] were born, which was on 29 July 2015.

GIBBS: That's right.

DRIVER: Thank you. So does it follow that during that week, you would have, from time to time, concerned yourself with the

details of [Baby F]'s welfare, development and any clinical events that may have occurred in that time?

GIBBS: Yes. And during that time I saw him myself and examined him.

DRIVER: Thank you. Have you been provided with and taken the opportunity of reminding yourself of the details of the clinical notes pertaining to [Baby F]?

GIBBS: Yes.

DRIVER: I'm grateful. Could we take Dr Gibbs, please, to our tile number 5, which records measurements taken on 29 July, which was, as you've already confirmed, his first day of life, to the effect that, in summary, your junior colleague Dr Sally Ogden recorded on the clinical notes, amongst other things, that [Baby F] was presenting with a glucose level of 1.9. We can actually look at Dr Ogden's note, please.

These are notes pertaining to [Baby F] shortly after his birth; is that correct?

GIBBS: Yes.

DRIVER: In terms of blood glucose levels, what was noted and recorded and interpreted from that data at this point in time? If we keep going up, please.

GIBBS: His very first glucose level you can see at the bottom of the page disappearing, it says "sugar 2.7", so that's satisfactory, we like it above 2.6 for a premature baby, but that was soon after birth.

DRIVER: Do you recall what happened soon thereafter?

GIBBS: Yes. The next -- it says "repeat gas" there on the page. And the glucose now is 1.9, so it has dropped, which is not uncommon in small babies, premature babies.

After delivery they are cut off from the supply from their mum, the nutrition from their mum and sometimes the blood sugar can fall in the first few hours of life.

DRIVER: And that's just a natural consequence of the separation of baby from mother?

GIBBS: Yes, and more likely to happen the more premature and the smaller a baby is.

DRIVER: And what, if any, response is typically or was provided in relation to [Baby F] for those clinical -- that clinical presentation?

GIBBS: Well, at this time [Baby F] was struggling with his breathing, so he needed some support, and he needed some fluids, so he was started on an infusion of fluids that contained glucose.

DRIVER: If we go back to the carousel, please, to tile number 9. Click on there, please.

Are you familiar with documents of this nature, Dr Gibbs?

GIBBS: Yes, it's recording the blood gases taken from [Baby F].

DRIVER: Is there anything else you want to observe from this document and the data contained on it? What do you note in relation to his blood sugar levels?

GIBBS: (Pause). I can't see the blood sugar levels on there.

I can see the second to last column is headed "lactate".

I'm not sure the blood sugar levels are on there.

They're appearing now.

Right we can see it's written "glucose 15.1". So that's a blood sugar level. That's on his second day of life -- he was born on 29th, that's on the 30th July -- and that's a high level. We roughly aim to keep the babies above 2.6 glucose levels but it shouldn't go often above 7. That's a high level of 15.

DRIVER: What, if any, interpretation would you make as to the changes between those two readings that we've looked at?

GIBBS: Well, obviously the glucose level has risen to an abnormally high amount. That can happen just because a baby is premature and small and they don't always produce enough insulin themselves to keep the blood sugar at a normal level so the blood sugar can run high.

Sometimes a high blood sugar is an indication of infection and I think at this time [Baby F] had already been started on antibiotics for possible infection.

And a single high blood sugar level -- we would normally just monitor that. A low blood sugar level is more hazardous for a baby. A high blood sugar level leads to complications in the

longer term and we would monitor that, but it remained high the next one at 00.22 on the 31st, where it is shown as 13.9. So because it remained high, he was started on an insulin infusion at that stage on the second day of life.

DRIVER: Thank you. So at 21.57 on 30 July, a reading of 15.1.

High, you tell us. At 00.22 into 31 July, 13.9, obviously lower than the previous reading but still high?

GIBBS: Yes.

DRIVER: And so was it that second reading that caused the introduction of insulin?

GIBBS: I can't be sure exactly when the insulin started. We'd need to look at the insulin infusion chart, but because the blood sugar remained high that would be an indication for starting insulin. In very small dose, very carefully controlled.

DRIVER: Yes. What effect does stress or infection have on small premature infants' capacity to absorb glucose into the bloodstream?

GIBBS: It reduces the capacity to absorb it from the bloodstream into the body tissues, and therefore stress or infection can cause a high blood sugar.

DRIVER: Thank you.

Go to tile number 10, please. We see the information indicates that medication in the form of Actrapid was started at 03.40 on 31 July. Is that what you have described as the start of a low-dose insulin infusion?

GIBBS: Yes, that's right. In fact, looking at that timing, the junior doctors at the time waited until there were a couple of high blood sugar levels before starting that.

DRIVER: Thank you. Let's go to tile 11, please. We can see that about an hour after the start of that Actrapid infusion, the insulin infusion, a subsequent blood gas chart/blood glucose level reading indicated a level of 8.7.

GIBBS: Yes.

DRIVER: So what would you have interpreted from that development?

GIBBS: That [Baby F] had responded well to the low-dose insulin infusion and his blood sugar was reducing.

DRIVER: As to an individual's capacity to respond or predisposition to respond to insulin infusion, does it vary from individual to individual, from baby to baby, or is it fairly predictable?

GIBBS: It's reasonably predictable, which is why we give insulin in very low dose and monitor the blood sugars carefully. Because you would expect a fairly prompt reduction in blood sugar once you start insulin.

DRIVER: And that is what happened here?

GIBBS: Yes.

DRIVER: Did the baby's blood glucose level continue to fall in response to the introduction of this infusion?

GIBBS: Well, it remained lower, which is why the insulin infusion was stopped after just a few hours.

DRIVER: Thank you. If we go to the next tile, which records the time at which it was ceased, and so, no pun intended, did the Actrapid have a rapid response?

GIBBS: Yes, and it was stopped after about 3 hours.

DRIVER: Is that what's intended, is that what it's for?

GIBBS: Yes. Sometimes insulin may need to continue for a little longer but [Baby F] responded very well and did not require the insulin after that.

DRIVER: Thank you. If we could move on through the carousel, please, just slide across and see... Let's move on, please, and could we put up Dr Gibbs' first introduction here.

I think, Dr Gibbs, it might not be on this carousel, but if Mr Murphy could put up, please, exhibit reference J2927. It should record notes of yours, Dr Gibbs, from 2 August.

GIBBS: Right.

DRIVER: If we could enlarge it a little, Mr Murphy, I'd be grateful.

Your handwriting, Dr Gibbs?

GIBBS: Yes, it is.

DRIVER: So 2 August, day 5 of life, 9.40 in the morning. Are these your notes of your examination of [Baby F]?

GIBBS: Yes, they are.

DRIVER: And was that an examination undertaken as part of your routine responsibilities or in response to anything in particular in relation to [Baby F]?

GIBBS: No, it was part of my routine responsibilities. I was performing a ward round of all the babies on the unit and I'd seen his brother just before I saw him.

DRIVER: Thank you. Could you take us through the note, please?

GIBBS: So as you can see from the top there, [Baby F]'s 5 days old. He was the second of premature twins. RDS is respiratory distress syndrome, which has been explained to the court, I assume. That's what he had suffered from early on. He is recovering from that. Suspected sepsis, he was on antibiotics at the time.

That says increased urea and creatine. So he'd lost some weight, which many premature babies do, and so he was mildly dehydrated with an increased urea and creatinine. And that indicated he'd had an increased blood glucose that we had discussed. Although he only needed the Actrapid insulin for about 3 hours, for the next few days his blood sugars remained acceptable but still moderately high, between 5 and 10.

DRIVER: Could I ask you to pause there. I anticipate the notetaker might be struggling again. This reference here with the arrow pointing upwards?

GIBBS: That's increased blood glucose.

DRIVER: That's a reference to the events of the previous --

GIBBS: The previous, yes --

DRIVER: -- (overspeaking) which we looked at in more detail?

GIBBS: When we put the problem list at the beginning of examination it means the problems a baby has suffered from. Some may still be current, some may have resolved. So this is the previous problem.

DRIVER: I'm grateful. Next is?

GIBBS: Establishing feeds. He suffered from some jaundice, which is common in babies, particularly premature babies, and he'd

also had a heart murmur which had been noted previously by various doctors who had examined him, but I then added "not heard today" because I didn't hear it when I examined him.

DRIVER: Thank you. As to the feeding regime, are you aware of the feeding regime for these first 5 days of his life?

GIBBS: Yes. Initially, [Baby F] was started on full intravenous fluids, but then gradually some nasogastric milk feeds had been introduced and in that entry there, saying "fluids", just beneath "drugs", I have pointed out that he's on TPN, that's the intravenous nutrition, but he was also receiving 5ml every 2 hours and EBM, which is expressed breast milk, so his mother's milk, through a nasogastric tube, so he was receiving some intravenous feeding, some nasogastric milk feeds.

DRIVER: We have heard, and could you confirm, that as for TPN, babies receiving TPN would receive a Start-up pack -- a bag, I should say, not pack?

GIBBS: Yes.

DRIVER: Which is standardised in content?

GIBBS: Yes.

DRIVER: And that would be given to them for the first 2 days of life; is that right?

GIBBS: Yes. Then a more mature mix of nutrition after that.

DRIVER: And that more mature mix of nutrition, would that be specifically tailored to that baby's requirements?

GIBBS: No, we still tended to use standard bags, but we could then add in extra salts if we needed to by separate infusion.

DRIVER: As the need required?

GIBBS: As required, yes. But [Baby F] at this stage was managing on just the ordinary standard TPN.

DRIVER: I'm grateful. The next set of notes (overspeaking) subheading "on examination" --

GIBBS: Yes, on examination, [Baby F] was in air, so he wasn't requiring any additional oxygen. But he'd had that morning some intermittent desats, that's desaturations, temporary drops in his blood oxygen level. But he was on CPAP, the form of respiratory support at the time.

I should add he was gradually improving from full ventilation to BiPAP to CPAP, so he was moving in an encouraging direction with decreased support needed for his breathing.

DRIVER: If within that positive evolution there were intermittent desaturations, would that have been a cause of concern?

GIBBS: Not by themselves, no.

DRIVER: Thank you. The next entry?

GIBBS: It says "mild subcostal recession". That just means he was sucking in his tummy a little bit below his ribs.

That is an indication of increased work of breathing and very common in premature babies. And "clear breath sounds" means his lungs sounded clear when I listened with a stethoscope.

DRIVER: The next entry?

GIBBS: That's the heart sounds, the first and second heart sounds, plus nil else heard, and that's why I've recorded I couldn't hear his heart murmur but I did add that the CPAP machine makes quite a loud noise and I didn't want to turn it off to examine him, so I couldn't hear a murmur above the CPAP noise.

DRIVER: So drowned out by background noise?

GIBBS: Yes, or indeed there may have been no murmur there at all.

And then it says:

"Soft flat abdomen. Active on handling."

All encouraging signs.

DRIVER: Mr Murphy, could you scroll down to J2928, please.

GIBBS: I then come to my impression of how [Baby F] was doing at the end. As noted, although he was in air on CPAP, intermittently he had desaturations, drops in his oxygen. The nurses had tried him off the CPAP support that morning before I examined him and his oxygen saturation dropped. That's what I'm noting there, he did need some increased oxygen intermittently but I felt it was likely the result of respiratory distress syndrome, the RDS, from which he was recovering, but I felt we ought to check or recheck his C-reactive protein, the CRP, which

is an indication of infection because he was going to have other blood tests done that day, that's why I say:

"Recheck the CRP with his urea and electrolytes and [bilirubin]."

"Bili" is bilirubin.

DRIVER: Thank you. And finally for this examination of the baby that morning on your ward round?

GIBBS: Because [Baby F] was doing well, the plan was to increase his nasogastric milk as tolerated.

MR DRIVER: My Lord, I'm grateful to Mr Murphy, who reminds me that I ought to inform everybody that these two pages of the clinical notes are available in the additional file on everybody's iPad.

MR JUSTICE GOSS: Yes. And it's 2597 and 2598?

MR DRIVER: 2927 and 2928.

That's for our reference, Dr Gibbs. I'm grateful.

So taking up where your note left off, moving forward to his 7th day of life and 5 August, were his milk feeds steadily increased as per the plan here?

GIBBS: Yes.

DRIVER: If we look, please, behind tile 161, we see reference to Dr Harkness. If we can scroll down for Dr Harkness' entry. At 01.30 on 5 August 2015, "R/V", is that...? "R/V"?

GIBBS: Review.

DRIVER: Review. Do you know whether this was a routine review or in response to the events that are recorded?

GIBBS: I believe it was in response to a concern about the vomiting and the increased heart rate.

DRIVER: We'll hear from Dr Harkness in due course, but would the need for this review have been overseen by you as the consultant of the week?

GIBBS: I was ultimately responsible, but at the time, at 1.30 in the morning, Dr Harkness was on the night shift and I was on call at home.

DRIVER: Thank you. Was this brought to your attention?

GIBBS: Later on, at about 3.30 in the morning, Dr Harkness phoned me.

DRIVER: Thank you. So let's consider what it was that Dr Harkness reviewed at the time at 1.30. Did you in due course -- were you in due course told that there were multiple small milky vomits and 9ml of milky aspirate?

GIBBS: Yes.

DRIVER: The baby's heart rate was at 200 beats per minute?

GIBBS: Yes, which was quite high, even for a premature baby.

DRIVER: The other observations recorded there?

GIBBS: Well, really, Dr Harkness finds otherwise a well-looking [Baby F] really from what he's observed. He's saying the abdomen is not distended -- that is a little diagram on the left-hand side. Chest is clear, he's put on the right-hand side. He does hear a heart murmur. So the baby looked well but had been vomiting and had an unusually fast heart rate. In fact, the observation chart from this time at night shows a sudden increase up to over 200, which is very unusual.

DRIVER: So that's the nurses or the observation chart completed by the nurses monitoring on an hourly basis?

GIBBS: Yes, it's suddenly increased from a normal rate up to over 200.

DRIVER: What, if any, interpretation was made of those factors, whether together or in isolation, the multiple small, milky vomits, the milky aspirate, and the sudden elevation of heart rate that you just alluded to?

GIBBS: At this time, from talking to me on the phone, Dr Harkness had assumed it could be due to infection and I agreed with that, but it's still unusual to have such a sudden change in observations. The reason the nurses undertake observations is to give us warning when patients are deteriorating, but little [Baby F] had suddenly gone from being stable to having a very fast heart rate, plus some vomiting. So it was a very rapid change, even for infection.

But infection, if not treated, can be very serious which is why Dr Harkness had, as you'll see in a moment, gone on to treat [Baby F] as if he may have an infection, and when he spoke to me a little later by phone I felt that was appropriate.

DRIVER: Could we scroll down, please. We see something signed by Dr Wood there. Are we able to --

GIBBS: Dr Wood is the SHO, a more junior junior doctor working with Dr Harkness. It says the plan is to re-screen, that's to recheck for infection, and start second line antibiotics. They are called second line because [Baby F] was already on antibiotics, he was just about to finish the course he'd started at birth but because he may have had another infection at this stage he was started on different antibiotics.

DRIVER: So the use of the word line here is a reference to the type of antibiotics rather than --

GIBBS: Yes.

DRIVER: -- the route by which (overspeaking) provided?

GIBBS: You could call it second stage antibiotics.

DRIVER: Could we go to --

GIBBS: Then the "cef" and "teic" is an abbreviation for the cefotaxime and teicoplanin, the two antibiotics that were then started.

DRIVER: Can we go to tile 165, please. If we look at the fluids at the right side of the chart, please. I'm inviting Dr Gibbs' attention to the early hours of 5 August and the provision of TPN to [Baby F]. Could we have the dates at the top?

Was [Baby F]'s provision of TPN amended in response to the observations recorded by Dr Harkness?

GIBBS: Yes. The main change at this stage was, because of the vomiting and the fact that when the nurses sucked out the nasogastric tube there was some milk still left in [Baby F]'s stomach after each feed, his nasogastric feeds, milk feeds, were stopped which meant the amount of TPN, the intravenous feeding, needed to be increased.

DRIVER: Previously we had seen a regime of ever-increasing feeds.

GIBBS: Milk feeds through the nasogastric tube, yes. And they were stopped.

DRIVER: They were stopped and replaced by intravenous TPN, effectively?

GIBBS: Yes, an increased amount of intravenous TPN.

DRIVER: Quite right, which would have been provided to [Baby F] through which method?

GIBBS: I believe he had a long line at this stage. He needed an intravenous line and he had a long line in his right groin at this stage.

DRIVER: Thank you. If we could then go to tile 163 and J3255, please.

MR JUSTICE GOSS: Sorry, just pause for a moment, please.

They're having difficulty hearing you, the stenographer.

I think it is there. You have to keep your voice up.

MR DRIVER: I shall.

MR JUSTICE GOSS: That's better. Thank you.

Dr Gibbs has got a very good strong voice.

MR DRIVER: Tile 163, please. So a blood glucose level reading at 01.54 hours. That reading, Dr Gibbs?

GIBBS: Yes, we can see it's abnormally low at 0.8mmols/litre.

And we can see in the column above that how his blood sugar levels had been entirely satisfactory, varying between 3.8 and 6.7 in the previous couple of days.

DRIVER: So the 3.8 reading that you've just alluded to --

GIBBS: The 0.8, yes.

MR JUSTICE GOSS: Second from the bottom.

GIBBS: 0.8, yes.

MR DRIVER: Previously, if we just take below the hole punch, 3 August 2015, at 09.45 -- that's the one, thank you, Mr Murphy -- 5.4. That's the morning reading.

Late afternoon reading, below it, 15.54 hours, 3.9.

Night-time reading, 21.48 hours, at 5. 4 August, in the morning, at 08.16 hours, 3.8. Then 23.32 hours, on 4 August, 5.5. Then the reading that you've focused upon, 01.54 hours, 0.8.

GIBBS: Yes. So that's the first abnormally low reading there.

That's a worryingly low reading for a baby.

DRIVER: So what, if any, action was taken upon discovery of that reading?

GIBBS: A bolus of glucose, that's sugar, was given intravenously. And I think around this time, Dr Harkness started an extra infusion with some glucose and salt in addition to the TPN to try and keep the blood sugar up.

DRIVER: Thank you. Could we go to tile 172, please, which records at 02.15 hours, in the early hours of Wednesday, 5 August 2015, "pathology blood ordered". If we go behind the tile.

Can you explain this to us, please, Dr Gibbs? It contains your name.

GIBBS: Yes. This is a result merely showing [Baby F]'s blood group.

DRIVER: Right.

GIBBS: It's not really relevant to the blood sugar. So he's group A positive.

DRIVER: I'm grateful. Let's go back to the carousel then, please, and go to tile 181. Return to the document below. Let's plot his course.

We looked at the penultimate entry, the 0.8 blood sugar reading. You told us of the response to that reading and then we see at 02.55, it had risen to 2.3.

GIBBS: Yes. Which is an improvement, which is moderately encouraging but still relatively low because we aim to keep premature babies' blood sugars above 2.6. But it's still an improvement, much improved from 0.8, so the response to this would probably continue to monitor the blood sugar carefully.

DRIVER: So the baby was continuing on TPN --

GIBBS: Yes.

DRIVER: -- with 10% dextrose? I think if we go to tile 183, we can see the medications, saline -- if we click behind that and look at the fluids to the right. Magnify the right side of the page, please, Mr Murphy.

We can see a 10% dextrose column.

GIBBS: Yes, it's the third column across.

DRIVER: Thank you. Does that read "commenced"?

GIBBS: Yes, that's about 04 in the morning, it looks like.

DRIVER: Yes.

GIBBS: 04.00.

DRIVER: And so was that an additional provision in order to maintain higher blood glucose levels in [Baby F]?

GIBBS: Yes.

DRIVER: A further blood glucose level was checked at 5 am?

GIBBS: Yes, and it's 2.9 in the column.

DRIVER: Yes. Thank you. Then if we go, please, behind tile 187, we'll see another entry from Dr Harkness, which includes "Discussed with Dr Gibbs".

GIBBS: Yes.

DRIVER: If we look at that which was recorded by Dr Harkness at 03.30 on 5 August, could you assist us, please?

GIBBS: Yes. [Baby F] had already raised concerns because of his initial vomiting and his fast heart rate and his low blood sugar. At 03.30, Dr Harkness had been reviewing him and because of the fast heart rate, had arranged a ECG, that is electrical recording of the heart. It's probably, but Dr Harkness can answer this, not only because the heart rate was fast because it had so suddenly increased that he wondered whether [Baby F] could have a problem with an abnormal heart rate, an inherent problem with the pacemaker of the heart causing a very fast rhythm. That's called an SVT.

That's why, when he's written "Discussed with [D/W] Dr Gibbs", I have said to him it's unlikely to be an SVT, this is an abnormal heart rhythm, simply because usually in a premature baby the heart rate in an SVT would be around 300. And although [Baby F]'s heart rate was abnormally fast at a little over 200, it wasn't fast enough, I felt, to be one of these inherent inborn heart rhythm problems called an SVT.

So then Dr Harkness has written -- he is writing what I have said with him, discussed with them on the phone call:

"Suggest repeating fluid bolus."

This is because we had assumed at this stage the fast heart rate, the vomiting, the low blood sugar may be due to infection, and as well as treating the low blood sugar, a fast heart rate could be the result of decreased perfusion, a drop in general perfusion that happens with infection and that's treated by just giving extra fluids.

So some of the boluses of fluid were glucose to get the blood sugar up, some of the boluses of fluid given during the night to [Baby F] at this stage was saline to improve his general circulation in case that was the cause of his abnormally fast heart rate.

DRIVER: So at that stage you were considering three features of his presentation: the increased heart rate, the level of the heart rate?

GIBBS: Yes.

DRIVER: The speed at which it had elevated to that level?

GIBBS: Yes. Unusual for an infection, yes.

DRIVER: And the low blood sugar levels?

GIBBS: Yes.

DRIVER: And at that point, at 03.30 hours on the morning of 5 August, what potential causes were under consideration?

GIBBS: That [Baby F] may have developed an infection. But that was still unusual to have such a sudden change in his observations.

That he may be dehydrated, but both those, infection and dehydration, were treated by giving him extra fluids. And as discussed, the junior doctors, appropriately at that stage, had started different antibiotics to cover an infection. So we were treating him for infection and a degree of dehydration.

DRIVER: The jury heard earlier this morning from [Dr C], who reported about a blood analysis ultimately received from the Royal Liverpool Hospital to the Countess of Chester on 13 August. And you're apprised of those results, aren't you?

GIBBS: Yes.

DRIVER: Knowing of them now, how would you interpret those three features that you've just discussed or given evidence about as per [Baby F]'s presentation at 03.30 on 5 August?

GIBBS: Right. Although there are many causes for fast heart rate and a low blood sugar, the fact that [Baby F] later this day, on 5 August, was found to have an abnormally high level of insulin, in fact an extremely high level of insulin in his blood, in retrospect that now makes it likely that his symptoms he was displaying after midnight on 5 August were related to very low blood sugar, caused by him receiving a high dose of insulin.

That would cause a fast heart rate, that would cause his low blood sugar, and that might also cause him to vomit.

DRIVER: Could we --

GIBBS: But I didn't suspect that at the time at 3.30 in the morning because there was no reason why he should have had a high dose of insulin administered to him.

DRIVER: Could we go to --

MR JUSTICE GOSS: Sorry, just before you do, just looking at the note that's still up on the screen of Dr Harkness, "Continue to monitor", and then, "Only for [a word beginning with A] if heart rate around 300".

Could you just tell us that so it doesn't remain a mystery?

GIBBS: Dr Harkness has written:

"Only for adenosine..."

Which is a drug given to treat the SVT, abnormally fast heart rates, if it's due to an inherent and in-built pacemaker problem with the heart. But I had discussed, I did not think it was an SVT and we shouldn't be considering treating the SVT with this drug, adenosine, unless the heart rate reached 300, which would make it a bit more likely to be an SVT, rather than a response to some form of stress.

MR JUSTICE GOSS: Right. I thought that might be the case but I just wanted your confirmation of it.

MR DRIVER: Can we just scroll down the remainder of Dr Harkness' note and see if there's anything else that Dr Gibbs would like to comment on?

GIBBS: I think when he's put "impression" there, an abbreviation for impression, we thought he may be dehydrated, query sepsis,

unlikely to be an SVT, that was Dr Harkness and my conclusion after we discussed [Baby F] by phone at 3.30 in the morning.

DRIVER: And the plan?

GIBBS: Continue to monitor the sugars, the blood glucose.

MR JUSTICE GOSS: I'm sorry, Mr Driver, if you were going to go on to that.

MR DRIVER: Not at all.

This is Dr Harkness on night duty in the early hours of the morning communicating with you and then if we go to tile 2918 -- sorry, 218. Tile 218. Your handwriting, Dr Gibbs?

GIBBS: Yes.

DRIVER: 8.30 am?

GIBBS: Yes.

DRIVER: 5 August?

GIBBS: Yes.

DRIVER: So this is you --

GIBBS: A few hours later, yes.

DRIVER: -- at the cot side? And your notes, please?

GIBBS: At the top is it says "sinus tachycardia", which means increased heart rate, but that would be a natural increased heart rate due to some form of stress.

Then I have put:

"Capillary refill 3 seconds, peripheral and central despite three lots of 10ml per kg of saline [that's sodium chloride] given overnight."

DRIVER: Pause there. Could you take us through that slowly and tell us what you interpreted from it?

GIBBS: So [Baby F] had a fast heart rate, but also some signs of decreased circulation. The capillary refill is just a rough and ready measure at the bedside that we can use to assess a patient's circulation. We just press on the skin for 5 seconds to blanch the skin, take the finger off, and just count how long it takes for the skin to re-colour. If you have a normal

circulation it should re-colour in about 2 seconds. So at this stage, [Baby F] was showing slight decreased circulation/decreased perfusion because it took 3 seconds for his skin to re-colour.

DRIVER: What if any conclusions did you draw from that?

GIBBS: Again, it could indicate that he was stressed, that either he had an infection or he was dehydrated. At this stage, despite the boluses of glucose overnight, and having started a glucose infusion running with the TPN overnight, the blood sugar had responded a little, going up into the 2s, but at 8.30 in the morning it had dropped down to an abnormally low level of 1.7. So at this stage, another sugar bolus, glucose bolus, was given.

DRIVER: Was such a blood glucose reading expected or unexpected?

GIBBS: Unexpected because he'd not responded well to the treatment to increase his blood sugar. But of course we did not know at this time it was because he'd had a large dose of insulin inside him.

DRIVER: The next entry, please?

GIBBS: It is saying:

"Chest is clear, no murmur, soft abdomen, not distended."

So [Baby F] otherwise looked well on examination.

DRIVER: And question marks?

GIBBS: I put:

"[Query] sepsis, but no increase in base excess."

When we do the blood gases the base excess is just a number that tells us about perfusion. It should be between minus and plus 2. And it was on [Baby F]'s blood gases, which is a little unusual because if he was dehydrated or badly infected causing his fast heart rate and vomiting, we'd have expected the base excess to be abnormally large. So his symptoms didn't really fit together, but we still query sepsis -- and if sepsis/infection is a possibility, you need to treat it even if it's not clear that's the true diagnosis.

Then there's "query query", meaning much less likely, could it be NEC, the necrotising enterocolitis, but I didn't think he had any clinical signs, apart from a fast heart rate and query sepsis, any other clinical signs, particularly on examining his abdomen, to indicate he is likely to have NEC.

DRIVER: So they were potential diagnoses but you have at the time expressed doubts?

GIBBS: Yes.

DRIVER: But you guard against them in any event?

GIBBS: Yes.

DRIVER: Safety first?

GIBBS: Yes.

DRIVER: Next entry?

GIBBS: Then because his blood sugar had fallen again to 1.7 when I saw him at 8.30 in the morning, the plan was to give a further glucose bolus to get the blood sugar up.

Then it's "query query", meaning it wasn't up to me to make the final decision because I had been on call overnight, but my consultant colleague, Dr Saladi, was now consultant of the week and in fact about to do a ward round of the neonatal unit on a Wednesday morning. So the possibility of doing a chest X-ray -- abdominal X-ray, "A X-ray", was discussed with Dr Saladi. Only a possibility because you do an abdominal X-ray to look for signs of NEC but I didn't really think [Baby F]'s abdomen indicated he was likely to have NEC.

DRIVER: The consultant responsibility was about to be --

GIBBS: Changed over, yes.

DRIVER: -- changed over to your colleague Dr Saladi?

GIBBS: Yes.

DRIVER: But have you apprised yourself of the contents of remainder of the clinical notes for [Baby F] over the next few days?

GIBBS: Sorry?

DRIVER: Have you subsequently appraised yourself of his clinical course as noted?

GIBBS: Yes, I have.

DRIVER: Thank you.

MR JUSTICE GOSS: So you didn't have any more responsibility for [Baby F] at that time?

GIBBS: No.

MR JUSTICE GOSS: So it's over to Dr Saladi but you've seen what Dr Saladi has -- what the notes have said about subsequent days? That's what you're being asked.

GIBBS: Yes, I have, yes.

MR DRIVER: It is.

Could we then go quickly perhaps to tile 218.

Is that where we were? Yes, I think we were.

Tile 228 then, please. Back to the fluids. Right side. If you could magnify that, please, Mr Murphy, I'd be grateful. Are you able to read the remainder of the entries for TPN and lipid and dextrose or would you like us to magnify it further, Dr Gibbs?

GIBBS: I can see those.

DRIVER: Thank you. So what was the continuing provision of those substances to [Baby F] for the remainder of that day?

GIBBS: We can see from the first four columns, the ones -- the top column is headed TPN and then there's five columns below that. That is TPN, the parenteral nutrition, the intravenous nutrition, continuing for [Baby F] during the day, starting from just after midnight. You can see at 11 in the morning it says "off". That was because the long line in [Baby F]'s groin had tissued at that stage and so the TPN couldn't be given through that line at that time.

It was restarted around 12 o'clock. But then at 19.00, it was stopped altogether, the TPN, and it's just missing off the edge of the screen but it looks like "5% dextrose" written in the margin, but it's 15% dextrose which is -- yes, 15% dextrose plus some salt, sodium chloride. That's higher because TPN contains about 10% dextrose. Dr Harkness, during the night, had started an additional 10% dextrose infusion for [Baby F]. But this was increased by 50% at 19.00, 7 in the evening, by changing it to a 15% infusion and the TPN was stopped at that stage.

DRIVER: Thank you. If we look down to our right under the output section of this document, and more specifically under the blood sugar column, how did his blood sugar levels go for the remainder of that day?

GIBBS: Well, throughout the day up until 19.00 hours, the blood sugar levels had been low and sometimes worryingly low.

That's despite continued intermittent boluses, extra doses of intravenous sugar to try and increase the blood sugar levels. We can see there looking down the screen they start at 1.3s, improve a bit to 2.4, but that was after a 10% dextrose bolus, dropped again to 1.9.

And we can see in the bolus column to the right of the -- left of the output, sorry, we can see where it says 10% dextrose given three times, first at 10 o'clock, then 15.00 hours and 16.00 hours. And yet the blood sugar is still remaining low and you can see a series of blood sugars at 1.9 right up to 18.00 hours.

But at that stage the TPN was stopped, 15% dextrose was started at 19.00 hours, and we can just about see under the J3204 indicator the blood sugar at 19.00 hours is probably 2.5 and then it's 4.1 at 21.00, 9 in the evening. So at last the blood sugar's come back up to the normal range. But this is with stopping the TPN and starting a higher concentration of sugar infusion, the 15% dextrose.

DRIVER: To recap on that, the various boluses of dextrose was introduced to what aim?

GIBBS: To increase the blood sugar.

DRIVER: Did it do so?

GIBBS: At times it increased it slightly, at other times it seemed to have little effect looking at the blood sugar levels recorded.

DRIVER: Was there at that point in time any known reason why the dextrose failed to have the desired consequence?

GIBBS: Well, I had been and you'd have to ask Dr Saladi -- I think the assumption was still this could be infection, but it's so unusual to have the blood sugar persistently low with an infection and intractable, unresponsive, to boluses of glucose that attempts were made to look for other causes, which is why around 6 o'clock in the evening bloods were sent off to look at a whole range of hormones to see if they had been causing the low blood sugar. One of the hormones checked was insulin, but it was a week later before the result came back showing the very abnormally high level of insulin.

DRIVER: Thank you. Could we go to tile 292, which, as you rightly say, is close to 6 pm, it's 17.56 hours.

[Baby F]. Dr Gail Beech. Still your name as consultant although I think you may have -- is there an explanation for that notwithstanding the fact that responsibility had been handed over to Dr Saladi?

GIBBS: Yes, [Baby F] and [Baby E] had been born the week I was consultant of the week and, just for the records, they have to remain under one consultant, which is why my name appears as their consultant. But at this stage Dr Saladi was responsible for their care as consultant of the week.

DRIVER: Is this the request for analysis that you just alluded to?

GIBBS: Well, this is the blood sugar taken at the same time as the other chemicals were measured in the blood and it shows an abnormally low blood sugar of 1.3. It should be -- we like to keep the blood sugar above 2.6, normally it should be between 4 and 7, as it had been in [Baby F] for several days leading up to just after midnight on 5 August.

DRIVER: Thank you. So samples were sent off to the biochemistry department of the Royal Liverpool Hospital; is that correct?

GIBBS: Well, they were sent to our biochemistry department in Chester; I am not sure where they sent them to. But insulin levels are not -- it's not a common blood test and so they send them off to another laboratory, which probably was the Royal Liverpool Hospital, but it was somewhere apart from the Countess of Chester laboratory.

DRIVER: Thank you. If we could please go to tile 293.

Again Dr Beech with your name attached to it. We see a set of data there. Can you interpret it for us?

GIBBS: Well, the first chemical mentioned is cortisol, a stress hormone, and that's measured because sometimes if that is very deficient, you're lacking in cortisol, you can have a low blood sugar, but that blood level is satisfactory.

But the more relevant result, the next chemical mentioned is insulin. Now, given that this blood test was taken at the time [Baby F]'s blood sugar was abnormally low at 1.3, there should be virtually no insulin detectable in the body -- natural insulin detectable in the body at that stage because of the low blood sugar. And yet rather than being an undetectable level of insulin, it's a very high level of 4,657 picomoles per litre. That's a very high insulin level.

The next chemical mentioned is insulin C-peptide -- has this been discussed in court?

DRIVER: [Dr C] touched upon it briefly.

GIBBS: Because when insulin is produced naturally in the body, the insulin molecules attach to this C-peptide and they are broken apart and both are secreted from the pancreas into the blood. The C-peptide stays in the blood much longer than insulin; insulin is removed from the blood within a few minutes. So normally the C-peptide level of natural insulin is much higher in the blood than insulin level. So we've got an insulin level of 4,600-odd. If -- the C-peptide for natural insulin should have been way above 4,600, instead it's undetectable. It says less than 169, but you can see on the right-hand side the normal range for the C-peptide is 190 to 990. The fact the lab said less than 169, it doesn't mean it's 169, it could be zero. It's just very -- it's undetectable by that laboratory's analysis.

So a very low level of C-peptide.

The bottom chemical is a C-peptide/insulin and that's a ratio between C-peptide and insulin. And it says the result there is zero but it give you the normal rain of 5 to 10 and what that means is the C-peptide level in the blood for natural insulin should be 5 to 10 times higher than the insulin level, which means if this had been natural insulin and [Baby F]'s level was 4,600, the C-peptide should have been 5 to 10 times higher so around 20,000 to 40,000. But instead it's undetectable.

So this isn't natural insulin, this is synthetic insulin made by a drug company because it doesn't have any C-peptide attached to it. So it's a very abnormal result to have a high insulin level when there's a low blood sugar. And there are rare disorders that premature babies can suffer from where they secrete, produce, too much insulin themselves. This wasn't one of them, because there should have been a very high C-peptide level and there wasn't. So this insulin result shows that [Baby F] had been given a drug form, a pharmaceutical form, a synthetic form of insulin. But he was never prescribed this at this time and he should never have received it.

MR DRIVER: Thank you. Could you remain there and answer any questions that are asked of you?

MR JUSTICE GOSS: Mr Myers, we haven't had a break yet.

We've had quite a long session. Unless you're only going to be but a few minutes.

MR MYERS: It's difficult to tell. It may be more than but a few minutes, therefore I'd ask for a break now.

MR JUSTICE GOSS: We'll have a 10-minute break, Dr Gibbs.

I anticipate Dr Gibbs will be completed before 1 o'clock.

MR MYERS: Oh yes, I'm sure he will be.

MR JUSTICE GOSS: I'd think about another 20 minutes or thereabouts. I don't know, I'm not asking the questions. All right. We will just have a 10-minute break. Thank you.

(In the absence of the jury)

MR DRIVER: My Lord, can I provide some information that might assist the court in timetabling the next few hours?

MR JUSTICE GOSS: Certainly.

MR DRIVER: The next witness to be called is Dr Saladi, who's present and has been for some time now. As with all witnesses, he was provided with his statements to refresh his memory in advance of being called into the witness box. I'm informed that he's identified some discrepancies that cause us to make some investigations.

We don't think it'll take terribly long, but if Dr Gibbs were to finish his evidence before 1 pm, we'd respectfully invite the court to take an early lunch so we can deal with this problem, if it is a problem, over lunch.

MR JUSTICE GOSS: Certainly. Very sensible, Mr Driver, we will do that. Just 10 minutes.

(12.15 pm)

(A short break)

(12.25 pm)

MR MYERS: I should say, and I can say now, Dr Gibbs is not a witness for whom we had intended to ask questions on this count. There are matters arising but not directly linked to this and one of the reasons I wanted the break was to review that situation. So I don't wish to cause inconvenience, but there is nothing that I need to ask Dr Gibbs at this point.

MR JUSTICE GOSS: Right.

MR MYERS: There will be arising from it, but not in relation to this specific count and what I'd like to deal with is best not dealt with now. So for that reason, we are back in the position we were in, which is that there is nothing we wish to ask him at this stage.

MR JUSTICE GOSS: Thank you. I understand that.

MR MYERS: I can explain that when the jury return just so there's no mystery.

MR JUSTICE GOSS: It might be helpful.

MR MYERS: I'll do that and I apologise for any inconvenience that creates.

MR JUSTICE GOSS: The consequence of that is that we've got to take lunch?

MR DRIVER: We could, or the alternative is we could replay that video, which Mr Murphy now has in complete form.

MR JUSTICE GOSS: Well, I think that might be quite a good use of time actually because the jury did indicate a significant number of them that they would want to see that again.

MR DRIVER: Understood.

MR JUSTICE GOSS: So I think we will do that.

MR DRIVER: It's about 16.5 minutes long.

MR JUSTICE GOSS: That's fine. All right.

GIBBS: My Lord, can I -- would the court be at all interested in knowing how I know the insulin might have been given to [Baby F]? Because if you look at the different infusions he had the following day, there's a lot of concern about whether it was all in one bag given at one point in time or whether it might have been in several different bags at different times. If that's not an issue that worries the barristers, that's fine. If it is, I think I can explain how it was given at one point in time some time after midnight on 5 August.

That's looking at the prescription charts.

MR DRIVER: We'll invite Dr Gibbs to make a statement.

MR JUSTICE GOSS: Thank you, Dr Gibbs, for raising that issue. The answer is not at the moment, but what you will be asked to do, I anticipate, is to put down in writing in a statement form

what you have just said, how that comes about, and that can then be considered and it may be that you'll have to give that, but thank you for raising that. That's the way we'll do it.

MR MYERS: My Lord, yes.

MR JUSTICE GOSS: So at the moment there are going to be no more questions for you. Just wait there for a moment.

(In the presence of the jury)

MR JUSTICE GOSS: Apologies for the delay. I was ready 5 minutes ago, but we have just had a discussion.

Mr Myers is just going to explain something to you and then I'll explain what's going to happen after that.

MR MYERS: I'm grateful. As I've explained to the court, on this count Dr Gibbs isn't a witness that the defence had required to attend to give evidence. So there were no specific questions relating to this.

There are matters that arise from his evidence, but they can be dealt with in due course in a more suitable place, so at this stage, having reviewed the matter, we are where we began, which is there are no questions for Dr Gibbs from us. But we're grateful for the time to consider that. I apologise if there was any inconvenience, ladies and gentlemen.

MR JUSTICE GOSS: Thank you, not a problem.

MR DRIVER: Does your Lordship have any questions for the witness?

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

Dr Gibbs, that completes your evidence at this stage. Thank you very much. The same applies as what I said to you before: please don't conduct any research in relation to this or discuss the matter with anyone.

In other words, don't look at any news feeds, if you do, over the internet or any other way, about this case.

I think someone will be speaking to you outside court in any event. But thank you for coming and giving your evidence again.

(The witness withdrew)

MR DRIVER: My Lord, you will recall earlier this morning we played a video, demonstrating the use of the Alaris pump. We

didn't quite reach the end, and as the court observed at the time, it was pretty dense with information in any event. May we replay the full 16-minute version now, please?

MR JUSTICE GOSS: Yes. You'll remember it all went pixelated at the end in parts. The indications I got from you were that you would want to see that again in any event, so let's use the time now to see it again so that you are more familiar. You know what's coming this time, so you can be looking out for things you consider may be important when it's played again. There will, as you've heard, be a witness who will be speaking to it to an extent as well in due course.

(12.32 pm)

(Video played to the court)

(12.48 pm)

MR DRIVER: That's the full version.

My Lord, would this be an appropriate time to break for an early lunch? If we were to do so, the presentation of the remainder of the evidence today will run more smoothly.

MR JUSTICE GOSS: Yes. I'm sorry this is a rather truncated day. It was stated by the nurse at the very start of that demonstration, but off camera you could just see glimpses of it, is the bag with the liquid in it up above and it comes into that burette, as she described it, and then down the line, but you will have picked that up, I'm sure.

So we'll break off now for an early lunch, but we'll start again earlier. Can you be ready to start at 1.55, please, and we'll have what I anticipate will be a full afternoon session?

MR DRIVER: It will, certainly.

MR JUSTICE GOSS: It will be a full afternoon session this afternoon, with a break, a short break.

(12.50 pm)

(The short adjournment)

(1.55 pm)

(In the absence of the jury)

MR DRIVER: My Lord, can I update the court as to where we anticipate we'll be going this afternoon?

MR JUSTICE GOSS: Certainly.

MR DRIVER: The consultant Dr Saladi, as I indicated earlier, has made some revisions to his statement, the nature of which necessitate the defence taking some time to consider them and therefore the prosecution will not be calling him this afternoon.

MR JUSTICE GOSS: Right.

MR DRIVER: However, we will still call [Nurse C], who deals with quite a lot of areas, and within her evidence we shall play at least two more videos. So we think she will take the afternoon.

MR JUSTICE GOSS: Right, fine. Thank you very much. I'll just say nothing to the jury. They didn't know who was coming next.

MR DRIVER: Thank you.

(In the presence of the jury)

[NURSE C] (recalled)

Examination-in-chief by MR DRIVER

MR DRIVER: [Nurse C], may I remind you that you are still under oath from the oath or affirmation that you undertook when you were last with us.

NURSE C: Yes.

DRIVER: For the purpose of the record could you begin by stating your name again, please?

NURSE C: It's [Nurse C]

DRIVER: I know you anticipate that we've invited you to return this afternoon to answer questions in relation to the patient [Baby F].

You made a statement to the police about your involvement in his care. That statement was made on 31 May 2019 --

NURSE C: Yes.

DRIVER: -- at which point you were casting your mind back to events in August 2015?

NURSE C: Yes.

DRIVER: As per your last attendance at this trial, you'll be reminded of the content of relevant notes and charts and the like as we go along.

Could you confirm, please, that you were on duty, working a day shift, on 5 August 2015?

NURSE C: Yes, I was.

DRIVER: Although you were not [Baby F]'s designated nurse that shift, you did have some involvement in his care?

NURSE C: Yes, I did.

DRIVER: Do you recall that that involvement was largely, if not exclusively, together with your colleague, Shelley Tomlins --

NURSE C: Yes.

DRIVER: -- who was indeed his designated nurse --

NURSE C: Yes.

DRIVER: -- for that shift.

I wonder, Mr Murphy, whether we could begin, please, by looking at tile 219. There you'll see, [Nurse C], a diagram representing the fact that he, [Baby F], was provided with medication in the form of glucose on the morning of 5 August 2015, at 8.30, which would have been shortly after the commencement of your day shift.

NURSE C: Yes.

DRIVER: If we look at the underlying document, we can see the time and we can see glucose. It says 10%, then it says "infusion (injection)", and below that it says:

"Dose and route (infu). Frequency: see chart."

Could you just decode all of that for us, if you don't mind?

NURSE C: Yes. This is the electronic record of what is actually prescribed on paper. So without seeing the paper prescription, I think this was a bolus of glucose that would have been prescribed to give as a push -- as a bolus of glucose in response to, I presume, a low blood sugar.

DRIVER: Thank you. On that point, you said bolus of glucose to be given, I think you said as a push?

NURSE C: Yes, it's a push. It's not an infusion over time, it's in a syringe and you -- yes, you give that fairly rapidly.

DRIVER: Would that have involved the use of a syringe driver?

NURSE C: No, not necessarily. You can give it as a slow push, just by hand. Some people do run it over a pump but there's no need to do that.

DRIVER: When providing dextrose to a baby is that done with a push or is that done through a --

NURSE C: You can give dextrose/glucose -- the terms are used interchangeably -- as an infusion that runs over millilitres per hour as a continuous infusion or you can give it as a bolus.

DRIVER: As a bolus it's a manual operation, as it were, manual delivery --

NURSE C: Yes.

DRIVER: -- by a nurse, but as an infusion it's done over a period of time --

NURSE C: Yes.

DRIVER: -- through a syringe driver?

NURSE C: Yes.

DRIVER: Before we look at any further detail of your involvement with [Baby F], may I ask for your patience, but we're going to play a video which we hope demonstrates the use of the syringe driver to provide dextrose to a baby. We'll watch it together and if there's anything you want to correct about it in terms of your actual practice, please feel free to do so once we've watched it.

(2.02 pm)

(Video played to the court)

(2.07 pm)

MR DRIVER: Pausing there, before we look at the next part of this short video, do you recognise that machine as the standard machine used at the NNU at Chester in 2015?

NURSE C: Yes.

DRIVER: Likewise, the syringe?

NURSE C: Yes.

DRIVER: And the tubing attached to the syringe?

NURSE C: Yes.

DRIVER: And all that was shown and described there, does that accord with your recollection as to the practice within the unit at the relevant time?

NURSE C: Yes.

DRIVER: Thank you. Continue then, please.

(2.08 pm)

(Video playing continued)

(2.11 pm)

MR DRIVER: Pausing there for a moment, same questions.

Does all that accord with your experience as at the time?

NURSE C: Yes.

DRIVER: One question and please do say so if you don't know the answer. We've heard reference to an events log. Are you able to answer questions about that or would you not feel comfortable?

NURSE C: It's not something -- (inaudible) can look at that.

It's not something we routinely look at. I do know it exists but I have never looked at it.

DRIVER: My simple question was: is that a log that's just kept within the machine?

NURSE C: I think so, yes. Certainly within a few menu settings.

If you can see it on the screen, I'm not sure.

DRIVER: Sorry to put you on the spot.

NURSE C: It's all right.

(2.12 pm)

(Video playing continued)

(2.14 pm)

MR DRIVER: Pausing there, please, under that last chapter entitled "Priming the giving set", firstly the narrator mentioned TPN solution.

NURSE C: Yes.

DRIVER: From your recollection at Chester back in 2015, would such a syringe driver and this kit that we've been watching, would that be used for the delivery of TPN or not?

NURSE C: It would have. There's two components of TPN. One is the Vamin or the Babiven, which is usually in an infusion bag that goes through a different pump than that. And then the other one is the lipid, so the fats that go (inaudible) part of the TPN, they do go through in a syringe and through that pump.

DRIVER: We'll look at the other piece of kit. Is the other piece of kit used when nurses say they "put up" a bag of TPN?

NURSE C: Yes, it is used for bags of fluid rather than syringes of fluid.

DRIVER: We'll look at that very briefly when we get to that part of your evidence when you're involved with a TPN bag.

Just to recap on what you have told us, the syringe driver would be used for the lipid element of it, the fats?

NURSE C: Yes.

DRIVER: What other fluids would this kit we are looking at now, what other fluids would it be used to deliver?

NURSE C: You can use it to deliver smaller volumes of any fluid, really. So if you were giving a saline bolus, a fluid bolus, you could use it for that. You could use it to give 10% dextrose -- we do get 10% dextrose brought up from pharmacy in 50ml syringes that are used for lower rates rather than using a big 500ml bag.

Antibiotics, if they're running over a certain length of time, or any medication that needs to be given slowly would be given in those syringes.

DRIVER: Thank you. And secondly, within that sequence that we watched, the narrator told us and showed us an additional extra filter that she said was used at the NNU and had a little blue tag attached to it.

NURSE C: Yes.

DRIVER: Do you recognise that?

NURSE C: Yes.

DRIVER: And was that used (overspeaking) --

NURSE C: Yes, that's used.

DRIVER: Was it used sometimes or always --

NURSE C: No, it was used all the time.

(2.17 pm)

(Video playing continued)

(2.19 pm)

MR DRIVER: Pausing there, do you recognise that which the demonstrator has just described about the accelerated dose and the purge button. Is that (overspeaking) --

NURSE C: I do, but not from Chester. I've worked with that previously but in Chester that's not a used button.

DRIVER: Right. So it exists because it's a standard piece of kit --

NURSE C: Yes.

DRIVER: -- but it was not the practice and is not the practice --

NURSE C: No.

DRIVER: -- to use it? Thank you for that clarification.

(2.20 pm)

(Video playing continued)

(2.20 pm)

MR DRIVER: Thank you. Anything you would like to qualify or add?

NURSE C: (Overspeaking) it.

DRIVER: I'm grateful. Could we go back to our carousel please, Mr Murphy, and go to tile 219.

We've just seen the computerised version and there is another one, which records a new order of 10% glucose to be provided by way of infusion, is that right, next to "route". Does that...

NURSE C: Yes.

DRIVER: Thank you. Could we just see -- could I see -- scroll down, please, Mr Murphy. Thank you very much.

We can see at the bottom of the page, your name --

NURSE C: Yes.

DRIVER: -- as co-signer?

NURSE C: Yes.

DRIVER: Above and to the right of that, we see under user, Nurse Tomlins?

NURSE C: Yes.

DRIVER: Shelley Tomlins?

NURSE C: Shelley Tomlins, yes.

DRIVER: And others have said, and do you agree, that the fact that her name is down under user and your name was co-signer does not necessarily reflect what happened --

NURSE C: Not necessarily.

DRIVER: -- at --

NURSE C: No.

DRIVER: -- at the time? Thank you.

If we could possibly put up J3146 please, Mr Murphy.

I'm expecting to find that behind tile 219, I must admit.

Let's go behind tile 278. There we are. Thank you.

Could we magnify that J3146, please?

Do you see anywhere on that page your initials?

NURSE C: Yes. The third line from the bottom is my signature: 10% dextrose, 3.5ml.

DRIVER: Thank you.

NURSE C: And then two lines below that is also my signature.

DRIVER: So have you just -- if we look at times under the "time and date started" column, you have taken us to 08.30 on --

NURSE C: Yes.

DRIVER: -- 5 August 2015? I wonder if Mr Murphy can highlight all of those entries, beginning with that, down to the bottom of the page. Thank you.

So we looked at computerised confirmation of these prescriptions. Is this the handwritten --

NURSE C: Yes.

DRIVER: -- corresponding part? I'm grateful.

So does this prove that at 08.30, on 5 August 2015, [Baby F] was prescribed a 3.5ml bolus of 10% dextrose?

NURSE C: Yes.

DRIVER: And moving along that line, the route, as per the computerised version, we saw before, was -- "IV" stands for?

NURSE C: Intravenous.

DRIVER: Intravenous. And on the computerised version, it was described as an infusion.

NURSE C: Yes.

DRIVER: Which is -- infusion is the method, intravenous is the route; is that right?

NURSE C: Yes.

DRIVER: Thank you. "Prescribed by" -- well, other -- I'm not going to ask you to -- I'm not going to make the joke about doctors' handwriting. But elsewhere will, I think, tell us that that's Dr Ventress, but you needn't worry about that at the moment.

Then the next is "given by". There's a note.

Thank you, Mr Maher.

(Pause)

MR JUSTICE GOSS: Well, I'll hand this note to you, Mr Driver. I don't think we want to interrupt this point, but if perhaps the question could be addressed --

MR DRIVER: Of course.

MR JUSTICE GOSS: -- in due course.

Mr Myers can see it as well.

(Pause)

MR DRIVER: My Lord, the note relates to the syringe driver.

We will return to that video presentation at the end of [Nurse C]'s evidence and perhaps ask her to help us in that regard.

MR JUSTICE GOSS: Exactly. It'll be addressed, but we won't interrupt just looking at this particular chart at this time.

MR DRIVER: Thank you.

So 08.30, 5 August, is your signature the upper or the lower in the given by box?

NURSE C: The upper signature.

DRIVER: So do you just sign it "[Initials of Nurse C]", do you?

NURSE C: Yes.

DRIVER: It looks a bit like a lower case A some may think.

NURSE C: Yes, I know. It depends how rushed I am.

DRIVER: Let's deal with where your initials do feature in one go.

So next line, same date, 10% dextrose. This time 50ml?

NURSE C: Yes. That's not my signature.

DRIVER: That's not your signature there?

NURSE C: No.

DRIVER: So we can rule that one out for you at 15.30. 15.15?

NURSE C: Mm-hm.

DRIVER: Your signature or not?

NURSE C: Yes, that's my signature.

DRIVER: The upper or the lower?

NURSE C: The upper.

DRIVER: So that is 15.15, 4.3ml bolus of 10% dextrose.

NURSE C: Yes.

DRIVER: Beneath that, your signature?

NURSE C: No, that's not my signature.

DRIVER: Deal with them in turn. 08.30. A bolus. Was that, do you recall or do the notes assist you, delivered through a syringe driver in the way that has just been demonstrated to us?

NURSE C: I don't recall, but I wouldn't have thought so.

DRIVER: Say again, sorry?

NURSE C: I don't recall whether it was given through a pump or not, but probably not.

DRIVER: Probably not?

NURSE C: Probably not.

DRIVER: Is that based on practice?

NURSE C: On my practice, yes.

DRIVER: And what was your practice?

NURSE C: I would have given a bolus as a manual push and -- so if I'd given the one below it, the 15 per kilo per day, that would be an infusion. But I would give a bolus as a slow push.

DRIVER: Understood. The one below -- we know you have told us you were not involved with that, but just by way of example, it's a substantially greater quantity and it's been prescribed for delivery at a certain rate?

NURSE C: Yes.

DRIVER: Therefore that requires some mechanical assistance to get that measured out and time the --

NURSE C: Yes.

DRIVER: -- delivery accordingly? Does it follow that your practice would have been to deliver the -- is it 4.3ml?

NURSE C: 4.3ml, yes.

DRIVER: Deliver that with a push --

NURSE C: Yes.

DRIVER: -- as you say?

NURSE C: Mm-hm.

DRIVER: In terms of that manual exercise, the push, is that straightforward?

NURSE C: Yes. Yes, so boluses like that would be -- so then he had a peripheral line, so you draw up the required volume and flush the line to make sure -- with saline to make sure it's patent and then slowly push the fluid into the line and finish off with another flush.

DRIVER: Sorry, there's some occult terms in there. Just take that in stages. The 3.5ml dextrose, where would that be drawn from?

NURSE C: From a 500ml bag of 10% dextrose.

DRIVER: What would it be drawn with?

NURSE C: Out of the bag through either a bag -- what's called a bag spike, which is a needle that sticks into the bag and stays attached, or using a normal needle attached to a syringe and you pull the fluid out into the syringe that you require.

DRIVER: To the required level --

NURSE C: Yes.

DRIVER: -- or quantity?

NURSE C: Mm-hm.

DRIVER: Next stage?

NURSE C: Then you take that syringe and the -- so Shelley and I would have looked at that together and checked that we were both happy with the volume that was in there and it was the correct

drug. And then that syringe would have been taken to the patient and the line accessed, cleaned, a flush given, and then the drug given as a slow push, and then the line flushed again to make sure it was all patent.

DRIVER: Taking those last few steps again slowly, you say you take it to the line and a flush given. What do you mean by that?

NURSE C: A flush is 0.9% saline. That's the first -- so whenever you give a bolus drug, before you infuse -- sorry, before you give the drug, you would give a saline flush to check the patency of the line. Saline is the least noxious thing you can give through a cannula, so if the line is not working properly, you can see that before you give a drug that might cause more damage to a vein.

DRIVER: Patency, what does that mean?

NURSE C: Patency means that the cannula is working.

DRIVER: Right. So it's open?

NURSE C: Yes.

DRIVER: You can push --

NURSE C: It's not leaking, it's not swelling round the edge.

DRIVER: You flush through. Is that similar to the act of purging that the demonstrator was talking about before or have I got that wrong? Tell me if I have.

NURSE C: No. So the act of purging that was demonstrated before is about infusions.

DRIVER: Let's not worry about that then.

NURSE C: It's not to do with this.

DRIVER: Let's go back to our bolus. You've flushed some saline through to demonstrate the patency of the line.

NURSE C: Yes.

DRIVER: Next?

NURSE C: Attach the syringe with the 10% dextrose, in this case, to the line and slowly push that in.

DRIVER: And that act of slowly pushing it in, does that require much vigorous effort on your part?

NURSE C: No, it shouldn't do. If it's too vigorous effort then there's something wrong with the line.

DRIVER: It's just the thumb action, is it?

NURSE C: Yes.

DRIVER: Thank you.

So if we please go to, Mr Murphy, tile 237. This is a grand round note made by a consultant, Dr Saladi. In case the members of the jury don't know, what is the grand round?

NURSE C: So the grand round is the round -- it's a ward round with a consultant that at the time was held every Wednesday. So the day before, the registrars would review every patient -- they had a checklist, effectively, that they'd used to do that and on the Wednesday morning the consultant on call for the week would come round and review every patient using that form.

DRIVER: And it just so happens that the day shift that we're focusing upon, the day shift when you were involved in the cares for [Baby F], was a Wednesday?

NURSE C: It was a Wednesday, yes.

DRIVER: And prior to making your statement to the police, did you remind yourself of the contents of Dr Saladi's clinical notes from the grand round --

NURSE C: Yes, I did (overspeaking).

DRIVER: Did they in part dictate the attentions that would be given to the patients --

NURSE C: Yes.

DRIVER: -- that day?

NURSE C: Yes.

DRIVER: Could we look at those insofar as they are relevant?

We can see Dr Saladi's made some notes from his examination. (Pause). "Note on examination" and then notes of some abnormal blood results.

NURSE C: Yes. So they're all written -- so the "on examination"

and the "first day check completed", that writing, I don't... Yeah, by Dr Ventress it says there. That probably would have been the day before. And then abnormal blood results -- I don't know when they would be from, but it would be timed on another chart in the Meditech electronic record.

DRIVER: And then we can see the writer there is a doctor by the name of Kwan(?) Hor. We'll see that junior doctor's name feature elsewhere, you needn't worry about that.

Further down, please, Mr Murphy.

"Management plan" signed by Dr Beech. Is this where you receive some of your guidance, if not instructions?

NURSE C: Yes.

DRIVER: Thank you. We can see:

"Wean from Optiflow. Complete antibiotic course."

Is that --

NURSE C: Yes, 7 days of antibiotics.

DRIVER: "Continue increasing the feeds"?

NURSE C: Yes.

DRIVER: And then to chase some results that we've heard about elsewhere:

"Complete examination on baby later."

Because the parents had arrived and the clinicians decided to take a step back and allow the parents time with the baby. Is that --

NURSE C: Yes, yes.

DRIVER: Thank you. Just go down to the bottom. So then Dr Saladi, with a plan to X-ray the baby's abdomen?

NURSE C: Yes.

DRIVER: New long line?

NURSE C: Yes.

DRIVER: We'll come back to that in a moment if we may. "Not for" -- what sort of drug is that?

NURSE C: Metronidazole is an antibiotic.

DRIVER: Thank you. Ranitidine?

NURSE C: IV ranitidine, yes.

DRIVER: And then this might link up to what we've looked at on the chart. If his blood sugars remain low -- blood sugar level, I should say -- to increase the dextrose concentration?

NURSE C: Yes.

DRIVER: And does that effectively reflect the actions that we saw on the chart that we looked at a few minutes ago, some of which were your entries, some of which were not?

NURSE C: Yes, it does, yes.

DRIVER: Thank you. So the new long line, pausing to focus on that for a moment, do you recall from refreshing yourself, your memory, from the note why a new long line was required?

NURSE C: The notes say that on the ward round in the morning, the long line that was in overnight had tissue, so the fluid was not going into the vein completely, it was going into the tissues surrounding the vein as well, so not working properly basically.

DRIVER: So it needed replacing to ensure a more effective delivery of the fluids and to avoid any discomfort?

NURSE C: Yes.

DRIVER: Could we then please go to tile 261. We can see reference to Dr Ventress, your colleague Shelley Tomlins, and yourself there. Can we click on to that?

We are at around noon now into your day shift on 5 August.

NURSE C: Yes.

DRIVER: Dr Ventress' name is more clearly spelt out there underneath her signature.

NURSE C: Mm-hm.

DRIVER: She therefore was prescribing the provision of Babiven Maintenance --

NURSE C: Yes.

DRIVER: -- to [Baby F]? The date again, 5 August. "Given by" -- is that your initials below?

NURSE C: My signature at the bottom, yes.

DRIVER: "Time and date started: 12.00, 5 August."

Is that your handwriting or not?

NURSE C: Yes, I think that's my handwriting, yes.

DRIVER: Next column to the right. Just look at the date and time again; is that yours?

NURSE C: Um... No, that's not my writing.

DRIVER: We can see that the first "time and date started", 5 August, is made up of four numbers, 5/8/15. In the next column it's made up of five numbers, 05/8/15. How do you write your dates?

NURSE C: The first way, so just with the 5.

DRIVER: We can see in the second or final column the time and date it was finished, which was recorded at 18.55 on 5 August.

NURSE C: Yes.

DRIVER: You have just told us that's not your writing, you don't think.

NURSE C: No.

DRIVER: And below that, in brackets, "new long line"?

NURSE C: "New long line", that's Shelley's writing.

DRIVER: Certainly not yours --

NURSE C: Not mine!

DRIVER: -- you can say emphatically?

In the same section of the form beneath -- under "fluids", beneath the Babiven Maintenance and additions, we see "lipid" --

NURSE C: Yes.

DRIVER: -- to be given at a rate of 15ml per kg per day -- sorry, you give that amount at the rate of 0.9. Moving

across, Dr Ventress again, date the same. Your initial again under the "given by"?

NURSE C: Yes.

DRIVER: And did you make the next entry or not?

NURSE C: Yes, I did. That's my writing.

DRIVER: Do you recall providing this bag of Babiven to [Baby F]?

NURSE C: I don't recall it, no.

DRIVER: Have you had the benefit of looking at any notes or records that assist you to remember what, if anything, you wrote about this procedure at the time?

NURSE C: I won't have documented anything because I wasn't looking after [Baby F], so the notes written would all be Shelley's.

DRIVER: Are you able to say how that bag was hung to that baby -- for that baby at this time?

NURSE C: I don't understand what you mean, sorry.

DRIVER: All right. Do you have any direct memory of this procedure?

NURSE C: I can't tell you exactly what would have happened at this date and time, but I can tell you what my normal practice would be.

DRIVER: Yes. Well, what is your normal practice?

NURSE C: So my normal practice for putting a bag of fluids up on a new long line would be to change everything connected to that long line. So this would have been a new bag of fluids, and we've signed the prescription to say that, but also it would have been a new giving set and filter.

And then that would have been run through and attached to the new long line.

DRIVER: So that's your practice?

NURSE C: Yes.

DRIVER: In fairness, you can't speak of these specific events?

NURSE C: No.

DRIVER: Let's move away from the Babiven for a moment then and look at the lipids. Would they have been provided with the Babiven or independently of it?

NURSE C: Independently of it.

DRIVER: Through which method?

NURSE C: That would have been infused via a syringe.

DRIVER: Driver --

NURSE C: The thing we've shown.

DRIVER: In the way that we saw briefly? I wonder whether we can just take a step back for the moment and, Mr Murphy, if you could just, please, replay for us the first few seconds of the video we watched earlier. That is to say our RC.16.21.

Do you recognise that device?

NURSE C: Yes.

DRIVER: Is that a device that you used in Chester in 2015?

NURSE C: Yes, it is.

DRIVER: What for?

NURSE C: That was to infuse fluids from a bag of fluid into a baby.

DRIVER: So this is part of the putting up of the bag?

NURSE C: Yes.

DRIVER: I wonder whether we could watch a few seconds of it.

(Video played to the court)

MR DRIVER: Pausing there, can you see, just behind the Alaris pump itself, we see some other equipment dangling down?

NURSE C: Yes.

DRIVER: Do you recognise that?

NURSE C: Yes, that's a bag of fluids and the giving set.

DRIVER: Right. So with the cursor pointing to two plastic parts, are they parts of the bag itself?

NURSE C: They're parts of the bag itself, yes.

DRIVER: So they're ports?

NURSE C: Yes.

DRIVER: They are ports?

NURSE C: Yes. So there is the ports -- the one the cursor is under is the port for adding additives to a bag of fluids and then the one next to it is where you attach the giving set to take fluids out.

DRIVER: Right. Is that known as a Baxter bag?

NURSE C: A Baxter bag? No, not on my...

DRIVER: We'll produce examples of this bag for the jury to look at in due course. So one is an input port?

NURSE C: Mm-hm.

DRIVER: And the one we can see attached to a device there is the output?

NURSE C: Is the output, yes.

DRIVER: Do you as a nurse ever input anything into such a Babiven bag?

NURSE C: Not into TPN, no.

DRIVER: So focusing upon the output port, is that the putting up of a TPN in progress that we're watching there?

NURSE C: Yes. A bag of fluids is connected, yes.

DRIVER: And if we look in the hand of our demonstrator, the right hand, is that the giving set?

NURSE C: As far as I can tell, yes.

DRIVER: We'll just play it for a second. It might be a bit more clear if we play it.

(Video playing continued)

MR DRIVER: Does that accord with your practice --

NURSE C: Yes.

DRIVER: -- procedure and equipment as used at the time?

NURSE C: Mm-hm.

DRIVER: So that bag, the prescription for which we've looked at, was put up at noon, according to the notes we've just seen?

NURSE C: Yes.

DRIVER: The lipid infusion was commenced at noon --

NURSE C: Yes.

DRIVER: -- according to the notes we've just seen. And then could we please go to tile 278, Mr Murphy. Thank you.

Back to the carousel.

We can see at noon the bag was hung and then here at 278, let's look behind, does that fluid chart inform us that something else was introduced at 15.30?

NURSE C: Yes, they added 10% dextrose as an infusion.

DRIVER: You've already told us that you don't recognise any of those signatures on that line as being yours?

NURSE C: No, they're not mine, no.

DRIVER: Are you able to explain why there was an infusion added at 15.30, a bag having been hung at noon?

NURSE C: So it's a different fluid. So when we put the TPN up at noon, that was at a rate of or a volume of 150ml per kg per day. This 10% dextrose is 15ml per kilogram per day so that takes the total volume of fluid up to 165ml per kg per day. I would assume that's because the sugar was still low but that will be recorded somewhere in the notes.

DRIVER: I know you touched upon this earlier, but that being a 50ml prescription of 10% dextrose?

NURSE C: Yes.

DRIVER: With a rate and duration prescribed by Dr Ventress. How would that be delivered?

NURSE C: So there's -- an infusion of 10% dextrose could be delivered either by putting up a bag of 10% dextrose through a pump or in this case, because they prescribed 50ml, I would guess it was a syringe of 10% dextrose, which comes premade from pharmacy. And that goes via a syringe driver.

DRIVER: Thank you. As to putting up a bag --

NURSE C: Yes.

DRIVER: -- is that in the same --

NURSE C: In the same way as the (overspeaking) just demonstrated there.

DRIVER: And through the Alaris pump. That would be run independently from the TPN?

NURSE C: Yes, so you would have the Vamin going through one Alaris pump, 10% dextrose going through either another Alaris pump or a syringe driver, and then the lipids going through a further syringe driver, so three pumps in total.

DRIVER: All going into a single line, a single route of entry or might they be going to different --

NURSE C: They could be going to different lines. You could put the 10% dextrose up on a peripheral line if there was one or you could add it to the long line and run it with the TPN. It'd probably be what most people would do.

DRIVER: Thank you. So that's practice?

NURSE C: Yes (overspeaking) --

DRIVER: And again I am asking a lot as to the actuality of --

NURSE C: I can't comment on that.

DRIVER: You can't comment. Thank you.

Could we go to tile 313, please.

So we're moving through the latter part of your day shift, which began at 7.30 in the morning. Now we're at 19.00 hours, 7 pm or thereabouts. If we can just click behind that, please. Do you feature on this document at all?

NURSE C: Yes.

DRIVER: Is it the third entry down, the first that hasn't been crossed through?

NURSE C: Yes, the 15% dextrose. That's my signature at the bottom.

DRIVER: Thank you. So 5 August, 15% dextrose, 500ml, with that rate and duration. Sodium chloride to be added at 16 -- what volume is that for sodium chloride?

NURSE C: 16 millimoles.

DRIVER: Prescribed -- given intravenously, prescribed by Dr Beech, and you've been -- [Initials of Nurse C] initials in the bottom right corner?

NURSE C: Yes.

DRIVER: And 19.00 hours. Is that the only time that your initials feature on this document?

NURSE C: Yes.

DRIVER: Thank you. Can we go back to the carousel, please.

Then if you could, please, just assist with this.

Go to tile 363. Thank you.

You were working a day shift --

NURSE C: Yes.

DRIVER: -- on 5 August?

NURSE C: Yes.

DRIVER: Which begins at 7.30?

NURSE C: Mm-hm.

DRIVER: And our understanding is would ordinarily end at 7.30/8 pm?

NURSE C: Yes.

DRIVER: With a handover?

NURSE C: Yes.

DRIVER: This, on the face of it, appears to be 2 am on Thursday, 6 August. I wonder if you could assist us with this anomaly.

NURSE C: Yes.

DRIVER: Let's click behind and see the actual document. If we go towards the bottom of the page, I think we'll see [Nurse C]'s name. There we go.

So we can see you as a co-signer?

NURSE C: Yes, this was an antibiotic, wasn't it? So when you have the medication on an electronic system, if you don't sign it, it comes up -- it flags that it is not been given. So the risk then is that somebody will come and give it again, even though it has been given the first time round. So the practice was that we'd ascertain whether that had been given on the day shift and then someone from the day shift would sign it.

So [Nurse A] is the nurse that was on the night shift. We've established that she's checked that dose with Mary Griffith, as she's written in the comments.

And I have signed so that we can take that drug off the system so that nobody gives it again. So it doesn't look like a missed dose because we know that the dose has been given to the patient.

DRIVER: Right. Let's approach it from a different angle: what does this computerised entry tend to prove that you did in relation to this medication?

NURSE C: It confirms -- I'm signing to confirm that the drug has been given by the user, [Nurse A], and checked by Mary Griffith.

DRIVER: Right.

NURSE C: It's complicated, but --

DRIVER: I'm sure it's me, but how could you have verified that?

Would that take place your during shift?

NURSE C: No, it'll have been flagged up -- I have signed for it on my shift at 20.28, so it's probably been flagged up somewhere along the way there, probably and again I don't remember, but usually what I would do in that situation is text the person who we were establishing whether they'd given it or not and establish that they had given it. It's not just taking someone's word for it. You establish that you've done it first and then you sign it.

DRIVER: Thank you. Go back to the carousel and we'll see two more examples of this. I won't ask you to go through the same explanation but just to confirm that it is the same process, tile 364, same time and date. Look at the original document, please. Again we go to... (Pause).

There we have --

NURSE C: Yes. So that's the same thing. So this is actually -- so this is an antibiotic -- two antibiotics because the next one you showed me is an antibiotic as well -- and the flush, so there were three things that were given at the same time as part of the same process.

DRIVER: Right. So you provide the same explanation for --

NURSE C: Yes.

DRIVER: -- all three -- you have anticipated there's one more to come and if I were to ask you, I'd get the same answer?

NURSE C: Yes, absolutely.

MR DRIVER: Thank you. And they are the questions that I'd like to ask of you.

MR MYERS: I wonder, my Lord, if I could hand that note back to your Lordship's clerk before I lose it in my papers.

MR JUSTICE GOSS: Thank you, yes.

(Handed)

Cross-examination by MR MYERS

MR MYERS: [Nurse C], I just want to ask, to start with, a little bit about the use of dextrose in a bag or a syringe driver, just so I can be clear as to what the position is as much as you can help us.

NURSE C: Okay.

MYERS: You've been asked some questions about what a syringe driver is used for.

NURSE C: Yes.

MYERS: Generally, will it be used for items that be going to be in smaller quantities and over a longer period of time?

NURSE C: Yes.

MYERS: So things like lipid and antibiotics, is that the type of thing that you might use a syringe driver for?

NURSE C: If you're saying a long period of time -- yes, we could use a syringe driver to infuse an antibiotic over 30 minutes, say, or even 15 minutes. So it's not always a -- it depends how you define long, I suppose, but, yes, things that need to be given at a slower rate or a smaller volume.

MYERS: Thank you.

10% dextrose, you help us, does that normally come in a 500ml bag or is it conventional to use it in smaller quantities?

NURSE C: We tend to -- so we get it in a 500ml bag. I think you can get smaller bags, but we don't get it. So that's how we get to the unit. We can either give that from a 500 (inaudible) bag, we can draw it up into a 50ml syringe and give it that way for smaller volumes, or our pharmacy provide 50ml syringes that are premade up and they're sterile.

MYERS: So if we just check then slide 278. Which is the list of the infusions, if we just put it back up. I'm going to ask if we can scroll down to that entry at 15.30, it's the third up from the bottom. Can you see on 5 August, 50ml of 10% dextrose and that's got a rate of 15ml per kilogram per day?

NURSE C: Yes.

MYERS: Just so we can understand, can you say from that whether that is from -- been used via syringe driver or hanging and going through the pump? Is it possible to tell looking back at this?

NURSE C: It should be in that it's prescribed for 50ml, so if someone was prescribing bag of fluids they should prescribe 500ml. The volume column should say 500ml.

MYERS: All right. So looking at the way that's been done, that's probably more consistent with going via a syringe driver than hanging up on the pump?

NURSE C: Yes. Yes. And 15ml per kilo per day on such a small baby was probably a very low rate, which is why it would be a syringe.

MYERS: Thank you. I just wanted to be clear about that.

I am just going to ask you next about what happened when the line was changed. You have explained to us that, looking back over the time, you don't have any independent recollection of exactly what happened.

NURSE C: No.

MYERS: If you can help us as far as you can. If a line tissues, a long line, it can't be used after that point, can it?

NURSE C: No.

MYERS: And so the line has to be changed?

NURSE C: Yes.

MYERS: And the decision to change that line was made during the course, is it, of Dr Saladi's grand round?

NURSE C: Yes.

MYERS: Right. Is that grand because it's a consultant with everybody following them around?

NURSE C: Basically, yes.

MYERS: Anyway, although he'd made the plan, he doesn't actually deal with the putting up of the bags, does he?

NURSE C: No.

MYERS: If the long line is changed, the absolutely standard practice is that everything that goes with it is also changed to reduce the risk of infection; that's correct, isn't it?

NURSE C: That's correct, yes.

MYERS: And as you have explained to us, that means the long line changes, the TPN bag will change, the giving set will change?

NURSE C: Yes.

MYERS: You were asked a number of times whether you had any exact recollection of what took place and of course you don't have.

NURSE C: No.

MYERS: But as a matter of basic practice, you would never put up an old bag of fluids if there was a new long line, would you?

NURSE C: I wouldn't, no. Also we didn't put up an old bag of fluids because we've documented that.

MYERS: Exactly, I'm going to come to that.

If we look, please, at slide 261. And we go into that. We've seen it a few times now. We'll just look at the document behind that.

If we look up at the top entry for day 8 when you just made a reference to it being noted that the new bag was up after the line was changed, that's what we see, isn't it, on the top line?

NURSE C: Where it says "new long line"?

MYERS: Yes. And also the new time and date started?

NURSE C: Yes, sorry, yes.

MYERS: That's right?

NURSE C: Mm-hm.

MYERS: So it's not just a matter of what your practice is, you're also able to rely upon this record here, aren't you?

NURSE C: Yes.

MYERS: As a general rule, TPN bags would run for 48 hours unless there's a problem as there was here; is that right?

NURSE C: That's correct, yes.

MYERS: Although some TPN bags are prescribed specifically for a given baby, you also have available a stock of Maintenance bags in the fridge, don't you?

NURSE C: Yes.

MYERS: And therefore, on this occasion, so far as you can understand from everything you've seen, you would have used one of those stock bags to replace the bag that was already hanging?

NURSE C: Yes.

MYERS: Is the system this, [Nurse C], that you have the stock bags there, they're replenished, maybe not immediately, but normally within a day or two, a couple of days of them being used?

NURSE C: Yes. So they're checked every night and if there's one being used or they're all going out of date then they would be -- yes, they'd be reordered and they would come to the unit the next day or the day after.

MYERS: To make sure, as much as possible, you have the ready stock to use if it's required?

NURSE C: Yes.

MR MYERS: Thank you very much, [Nurse C]. That's what I wanted to check.

Re-examination by MR DRIVER

MR DRIVER: Just dealing with that last enquiry as to the stock bags, they are kept on the unit within a refrigerator?

NURSE C: Yes.

DRIVER: And you told my learned friend that every night a check would be undertaken --

NURSE C: Mm-hm.

DRIVER: -- to see if any had been used?

NURSE C: Yes.

DRIVER: How would the checker know if any had been used?

NURSE C: So there should be -- I'm stretching my memory back now.

There's a certain number that should be in the fridge, so I think it was five. So if there's not five bags in the fridge, then you order an extra bag.

DRIVER: Is that five TPN bags?

NURSE C: Yes, five bags of maintenance Vamin/Babiven.

DRIVER: So five Babiven Maintenance bags in total?

NURSE C: In total.

DRIVER: So that's the stock?

NURSE C: Of that particular one. So there is Start-up Babiven as well, but we won't go into that.

DRIVER: I'm going to come to that. So Start-up is for babies in the first day or two of life?

NURSE C: Yes.

DRIVER: After which they receive Maintenance?

NURSE C: Yes.

DRIVER: Were they kept on the same shelf as each other or on different shelves?

NURSE C: Um... There's nothing set, so probably normally on the same shelf I think, from what I can remember, but they're not -- there's not a set position for them in the fridge.

DRIVER: And so just to recap, the target stock would be five of each?

NURSE C: Yes. Actually, I think there might be slightly fewer of the Start-up bags. But there was a target stock, yes.

DRIVER: That target stock, would there be an order to replenish it to that level if one had been used?

NURSE C: Yes.

DRIVER: Also there'd be an order to replenish the stock if the existing stock was going out of date?

NURSE C: Yes.

DRIVER: Does it follow that each of these bags, therefore, have a date shelf life?

NURSE C: Yes. Yes.

DRIVER: Were the bags kept in the fridge ordered in any particular way?

NURSE C: So they are ordered -- they were ordered at the time on a paper, piece of paper, that somebody on the night shift would write what drugs were needed, that came from CIVAS, so came from the pharmacy, made up ready for us, and that would be faxed down to pharmacy.

DRIVER: It's entirely my fault. When stored in the fridge, were they stored in any particular order?

NURSE C: Oh no, no. Just usually you get a batch of the TPN, it's all the same expiry date and that kind of thing, in a bag together.

DRIVER: If one had been -- if replenishment was required because one had been used, presumably that would come with a different use by date than the existing stock?

NURSE C: Yes, it could do, yes.

DRIVER: But there was no system of ordering them by expiry date, for example?

NURSE C: No.

DRIVER: You were asked by my learned friend about the system of delivering fluids, dextrose and the like, and I look to my learned friend, there is actually a five-minute video that shows this. It might be a useful time to play that so you can tell us whether this accords with your evidence and I wonder if Mr Murphy could play RC.19.21.

(3.12 pm)

(Video played to the court)

(3.18 pm)

MR DRIVER: Is there anything within that demonstration that conflicts with your recollection of practice?

NURSE C: No, that covers the process, yes.

MR DRIVER: I wonder whether Mr Myers has any questions.

MR MYERS: No further questions for [Nurse C].

MR DRIVER: Does your Lordship have any questions?

Questions from THE JUDGE

MR JUSTICE GOSS: One thing. I didn't pick it up, the fault is mine. I'm looking at J3146, which is behind tile 278. We've looked at it many times now. It's the dextrose prescription sheet.

NURSE C: Mm-hm.

MR JUSTICE GOSS: And down at the bottom where, as I understood your evidence -- and if I've misunderstood it, please do correct

me -- you are saying that's your initials and therefore you have signed for two of the 10% dextrose prescriptions on 5 August?

NURSE C: Yes.

MR JUSTICE GOSS: The ones at 8.30?

NURSE C: Yes.

MR JUSTICE GOSS: And 15.15?

NURSE C: Yes.

MR JUSTICE GOSS: So in between, there's one that is at 15.30?

NURSE C: Yes.

MR JUSTICE GOSS: That appears before the 15.15 one.

NURSE C: Yes, because probably the doctor who's prescribed that has prescribed them both at the same time and that reflects the order that they were put up in because if the baby had a low blood sugar we'd give the bolus first to correct that and then set up the fluids rather than setting up the fluids and then giving the bolus later.

MR JUSTICE GOSS: That's what I was coming to. Looking at the 15.30 one, three up from the bottom, that's 50ml at the rate of 15ml per kilogram per day.

NURSE C: Yes.

MR JUSTICE GOSS: You said something about 500.

NURSE C: So... Yes, basically the 10% dextrose either comes in a 50ml syringe, made up from pharmacy, or it comes in a 500ml bag. It's the same drug, it's just in different sizes. So we could give either -- I didn't sign that so I don't know why they particularly picked 50ml rather than a 500ml bag. I would assume it's because 15ml per kilogram per day in a small baby is a very small volume so it would be more reliable to give that rate in a syringe driver rather than through the volumetric pump out of a bag of fluids.

MR JUSTICE GOSS: Right. So you'd set the syringe driver -- you do it through the syringe driver, not through the pump --

NURSE C: Yes.

MR JUSTICE GOSS: -- because it's such a small volume?

NURSE C: Small volume, yes.

MR JUSTICE GOSS: That explains it, thank you very much.

MR DRIVER: My Lord, the only outstanding issue is the question raised by the juror, which we hadn't yet addressed.

MR JUSTICE GOSS: Do you want me to ask this question? All right. There's a question from the jury about the syringe driver. If the line isn't primed to get rid of air, will the machine still work?

NURSE C: It'll still work, with that giving set that you were -- that was on the demonstration. You can get a giving set that has an air filter in it, then that would alarm, but that set as set up, which is how I think we used it at the time, would not alarm if there was air in the line.

MR JUSTICE GOSS: So it would still work?

NURSE C: Yes.

MR JUSTICE GOSS: In other words, is it possible to start delivering what's in the syringe without priming the line first so air goes into the patient?

NURSE C: Yes.

MR JUSTICE GOSS: There we are. Thank you very much. We still have an outstanding question.

MR DRIVER: Others are saying yes. I hear blood transfusion being addressed.

MR JUSTICE GOSS: That'll be addressed, will it?

MR DRIVER: We have an expert in haematology coming on Tuesday of next week to deal with that and other issues.

MR JUSTICE GOSS: Thank you very much. So far as this witness is concerned, that's it for today. Do you have the sheet there, Mr Driver?

MR DRIVER: Yes. I look forward to seeing [Nurse C] return in the future.

MR JUSTICE GOSS: Right. So as before, don't talk to anyone about anything and don't seek to gather any information about what's been said during the course of the trial by any means --

NURSE C: Yes.

MR JUSTICE GOSS: -- newscasts or the like. Thank you very much for coming again.

(The witness withdrew)

MR DRIVER: My Lord, unless the jury want to see the replay of any of those videos on demand, as it were, that's as far as we can go with evidence this afternoon.

MR JUSTICE GOSS: Yes. I think there was another witness lined up, but has had to be postponed. That's why you must think I'm one of the most unreliable people there is, because I keep saying it's going to be a full day and it isn't a full day. It's just me being optimistic and we need optimism where possible.

So I'm afraid that's it. Early again this afternoon. Tomorrow we did canvass the possibility, or I canvassed the possibility, of starting earlier at 10 o'clock, but that's not going to prove practical.

MR DRIVER: I believe not.

MR JUSTICE GOSS: Therefore it will be 10.30 tomorrow, but we will be finishing no later, effectively, than 2.30, between 2.30 and 2.40.

MR DRIVER: If your Lordship wishes, we'll programme events so that we have an earlier but shorter lunch break too (overspeaking) --

MR JUSTICE GOSS: And I will do what we did before: one 2-hour session, a shorter break if you don't mind, half an hour break, and then a hour's session after that break. All right? Thank you very much. Remember your responsibilities as jurors; I won't repeat them.

(In the absence of the jury)

Housekeeping

MR JUSTICE GOSS: I know you probably haven't finalised exactly who is going to be giving evidence tomorrow, but Professor Hindmarsh we know.

MR DRIVER: Professor Hindmarsh will be called first. His availability is more limited than most. The clinical biochemist, Dr Anna Milan, her evidence is very precise and short and narrow, yet important. She provides the data upon which Professor Hindmarsh's opinions are based, as indeed the data considered by Dr Gibbs and [Dr C].

MR JUSTICE GOSS: So she will be first probably, will she?

MR DRIVER: It probably would make sense to call her first on reflection. Then Professor Hindmarsh and then, depending on progress, Dr Harkness, who your Lordship would have noted examined [Baby F] on several occasions, considered by Dr Gibbs. We can measure the duration of his evidence fairly precisely, I think.

MR JUSTICE GOSS: Yes. That means that we'll be -- Dr Saladi will probably be Monday?

MR DRIVER: Yes. Not tomorrow.

MR JUSTICE GOSS: I don't want him to be inconvenienced, waiting around.

MR DRIVER: No, he's not been invited to return tomorrow.

MR JUSTICE GOSS: Good, excellent. Thank you very much.

Mr Myers, you'll be wanting to see the defendant?

MR MYERS: Certainly one member of the defence team at least will see Ms Letby. It may be me, it may be one of the counsel I lead.

MR JUSTICE GOSS: One of the legal team will come and see her before she goes, please. Thank you.

MR MYERS: I'm not stopping, there's other things to do but (overspeaking) --

MR JUSTICE GOSS: I didn't want her being taken away before --

MR MYERS: We're grateful, my Lord, thank you.

(3.27 pm)

(The court adjourned until 10.30 am on Friday, 25 November 2022)