Monday, 3 December 2012

(9.30 am)

(Delay in proceedings)

(9.42 am)

DR DAVID WEBB (continued)

Questions from MS ANYADIKE-DANES (continued)

MS ANYADIKE-DANES: Good morning, Dr Webb.

I want to pull up something that you had talked about in relation to status epilepticus. There's a protocol that was developed for status epilepticus in the Children's Hospital, the reference for which is 311-023-010, I think; were you familiar with that?

A. This is the protocol that's used for convulsive status.

Q. Yes. And what would be the difference in treatment between that and non-convulsive status so far as you're concerned?

A. Well, this is a protocol that -- do we have the date of when it was first ...

Q. Yes, we do: July 1994. This is the third edition and, I believe, the edition that was in force at the time of Claire's admission.

A. It's similar to a protocol that would be used today with some variation, so we wouldn't go to diazepam --

Q. All I'm asking you for is, in 1996, if you say this was the protocol that was developed for convulsive

status epilepticus, what was the difference in 1996 between the treatment of convulsive status epilepticus and non-convulsive status epilepticus?

A. I think this protocol was a useful guideline, but you had to design your treatment for the situation you were in. So it would be one that -- I wouldn't have used phenobarbitone for Claire because, in that context, she would have had to have ventilation. So that was the reason that I went to midazolam after phenytoin because I felt that that was a safer option for her.

Q. Safer?

A. Yes.

Q. I'm still not entirely clear on what you say the difference in principle is between treating convulsive status epilepticus and non-convulsive status epilepticus or isn't there one?

A. There isn't one.

Q. Right. I understand you to say that, in all treatments, you tailor them to what you understand to be the needs and requirements of the child, I understand that, but in this general protocol, why is it that it goes, after diazepam, to phenobarbitone?

A. Because I think that was the protocol that was recommended at the time.

Q. At the time.

A. But as I said, I wouldn't have gone to phenobarbitone in the situation that I found myself.

Q. What's the difference between the general situation and the situation you found yourself in with Claire?

A. Because I think with phenobarbitone Claire would have had to go to intensive care.

Q. But isn't that the point? It might be thought at that stage, when you're having to use phenobarbitone, that intensive care might be an appropriate place to be treating a child like that.

A. I think if you had used phenobarbitone, that would be correct.

Q. Yes. Is one way of interpreting that at that stage, where you feel it's necessary to move on to a different therapy, that might be indicating something sufficiently serious, which suggests that the child should be treated in intensive care?

A. And I think that the rationale for that is largely to do with the convulsive nature of the problem. So with convulsive status, the risk is much higher for it to cause additional damage to the brain.

Q. And why is that?

A. Because there's a huge metabolic requirement that occurs during convulsive status. You're much more likely to get hypoxic damage to the brain in that context. So

it's the fact that the child is convulsing, which places a huge metabolic demand on the brain. That's less of an issue with non-convulsive status.

Q. What about the demand on the brain if non-convulsive status is continuing for some considerable period of time?

A. Non-convulsive status can go on for days and cause no additional damage to the brain. In that sense, it doesn't always cause the concern that you see with convulsive status.

Q. Well, we may have to revisit that as to how serious a condition non-convulsive status is. Can I just hear from you --

THE CHAIRMAN: Sorry, I don't think the doctor's saying it's not serious.

MS ANYADIKE-DANES: No, no, that's how I'm going to frame it --

A. What I am stying is that it can go on for days and the child can make a full recovery from it.

Q. I understand you to be saying that.

A. It can also cause problems, but the situation is completely different for convulsive status where there's a very high risk after 30 minutes.

Q. If we stay with the non-convulsive status epilepticus, is it also possible, even without it being prolonged for

days, for that too to be serious and to have the potential to cause damage?

A. Yes, and that's why I was treating it, but I think that potential is much less.

Q. Thank you. And under there where it says "maintain homoeostasis", what does that mean?

A. Homoeostasis is maintaining the child's oxygen levels, their blood pressure.

Q. Might that include also maintaining their serum sodium levels within range?

A. I think in a general sense, if you're in intensive care, yes, that would be part of the care.

Q. I don't mean in intensive care; I mean maintaining homoeostasis. Can that terminology also include maintaining their electrolyte levels within normal range?

A. I think that's a much bigger issue if you're in convulsive status.

Q. I'm trying to find out about the meaning of maintaining homoeostasis --

A. I understand that.

Q. I don't mean how difficult it might be to do --

A. I understand that.

Q. -- or how serious it is if you don't do it; all I want to find out at the moment from you is whether you

understand that terminology to also embrace maintaining electrolyte levels within normal range.

A. I think I would, yes [OVERSPEAKING].

Q. And how would you do that other than testing?

A. As I said, this is in the context of convulsive status you're talking about.

Q. I understand that.

A. I think it is a little less of an issue in non-convulsive status.

Q. I understand that. But in any event, if you are going to maintain homoeostasis, which does include maintaining your electrolyte levels within normal range, you have to test.

A. That's correct.

Q. Otherwise how will you know. Why do you need to do that?

A. Because of the risks of hypoglycaemia and hyponatraemia.

Q. And hyponatraemia? And hyponatraemia, is that not also a risk for non-fitting or non-convulsive status epilepticus?

A. It's very much less of an issue for it.

Q. But it is a risk?

A. It's a potential small risk, yes.

Q. Yes. A risk. And therefore something one has to have in mind?

A. Yes.

Q. And if it's something you have to have in mind -- on Friday, I was asking you about the need for a paediatric neurologist who might be involved to not be prescribing the fluid therapy, but offering some guidance on it. If it's something that you ought to have in mind, is it not something that you should therefore have been drawing to the attention of the junior paediatric team?

A. And as I said to you on Friday, I discussed that with Dr Sands the very first time we talked about Claire, so I had raised the issue of what her sodium was and we both agreed it wouldn't have explained her presentation at that time.

Q. That's a different point. That's a diagnostic point. The point I'm asking you is in terms of managing her care. When you come at 2 o'clock, it is because you've been asked to offer some sort of an opinion as to her and to help provide some assistance as to what an appropriate treatment plan might be in terms of her neurological presentation. At that stage when you are doing that, the point I'm asking you is: would that not have been appropriate to offer some guidance as to the fluid therapy?

A. I don't think I would have distinguished my discussion about the sodium from it being a diagnostic issue from

being a therapeutic issue. So I would have raised it as an issue and my understanding was that the fluid management was being managed by the paediatric team.

Q. Later on, when you see her at 2 o'clock, is it not something that you should be considering then also?

A. We had just discussed it. It was minutes previously.

Q. No, you had discussed it with Dr Sands. Dr Sands is not there at 2 o'clock. You have the junior team and, for all you know, Dr Sands may not be returning for some time. You are there offering guidance and an opinion on her state. So it's a very simple question: is it not something that you could have just drawn to the attention of the junior SHO who was with you, just so that he is alive to, perhaps, the importance of keeping an eye on her serum sodium level?

A. My expectation wouldn't have been that Dr Sands wouldn't have been around. My expectation was that Dr Sands would have been around. He was providing care for that ward. So as I said, I had raised that issue, we discussed it, the level, as I understood it, was from that morning and was not one that would have caused me concern.

Q. Then maybe I can ask you in this way: when you raised it and discussed it with Dr Sands, how did you discuss it with him in terms of the diagnostics and the risks?

A. The very fact that we discussed it would have raised it as an issue.
Q. That's what I'm asking you. What did you say? I'm not asking you literally what you said because it's impossible to recall, but in general terms what would you have been saying about it from a diagnostic point of view and from a risk point of view?
A. I would have asked him what the level was, he told me what the level was, and we agreed it wasn't an explanation for her presentation at that time.
Q. Yes? And?
A. I can't recall any further discussion about it at that time.
Q. That's why I'm asking you about the risk. That is only saying that doesn't help us to diagnose her presentation as at when you saw her at the ward round at 11 o'clock. It doesn't say: this is a child who's presenting with some neurological concerns, one needs to bear in mind fluids and electrolyte levels.
A. I accept I wasn't prescriptive in that way.
Q. Do you think that would have been helpful to have done that?
A. In retrospect, it might have been. I think it was reasonable for me to expect that the paediatric team would manage the fluids.

Q. I think you've said that before. I was simply looking for your position on guidance. Even with retrospect, do you think that guidance on it might have been helpful?
A. I think if her sodium had been below 130 then I would almost certainly have said something in relation to fluid management specifically. But with a figure of 132 in a child who had been vomiting, I wouldn't have made any comment.
Q. I suppose one of the reasons I am pressing you -- and to some extent, I'm being asked to press you a little bit -- is because an awful lot turns, as it turns out, on your belief that the 132 was from that morning. And given that it does, would it not have been incumbent to be absolutely sure about when that test was taken, even to ask exactly when were those bloods taken; not is it this morning or whenever -- this morning could have been after the ward round whenever. When exactly were those bloods taken? Would that not have been an appropriate question? Then you're pinpointing to a particular time what her serum sodium was.
A. In retrospect perhaps, yes.
Q. Yes. From Dr Sands' evidence -- as I understand it and I'll stand corrected -- he couldn't have intentionally been conveying to you that that blood result came from a test result that was done that morning because he knew

that hadn't happened.
A. No, and I didn't imply that he did.
Q. No, you didn't say that; I'm saying that he couldn't have.
A. Yes.
Q. There's a flowchart, just while you're there on the interrelationship of matters, that we prepared with the assistance of one of the inquiry's experts to see if you can help with this. It's 310-014-001. This is trying to capture the interrelationship of these conditions. You see there that you've got a feed in to the cerebral oedema from those three potential conditions, the encephalitis, status epilepticus, and the encephalopathy. But the status epilepticus non-convulsive, non-fitting, is seen, so far as the inquiry's experts are seeing it, as a potential independent cause of cerebral oedema. Do you accept that that's possible?
A. My experience certainly has been that it is a rare cause of cerebral oedema. So it wouldn't be something that I would be expecting, no.
Q. Can I ask you, as at 1996 when you were treating Claire, what was the extent of your experience of non-fitting or non-convulsive status epilepticus?
A. I can't recall exactly, but I probably would have seen

maybe 7 or 8 children with non-convulsive status.
Q. As at that stage?
A. Yes.
Q. And can you recall -- you may not be able to, I'm just seeing if you can help us -- over what period of time we're talking about. Does that include prior to you being a consultant?
A. Yes.
Q. When you were a registrar and so on?
A. Yes.
Q. If you can do it, do you know, before Claire, roughly the last time you saw a child with the condition you thought she had, which is non-convulsive status epilepticus?
A. It would have been in Vancouver.
Q. In Vancouver?
A. Yes.
Q. So it's not a common occurrence for you?
A. No, it's not.
Q. And it in and of itself is not a common occurrence, therefore the potential odd features of it or rare features of it will be even less likely to have been familiar to you?
A. That's correct.
Q. As you probably have appreciated from some of the

questions that you were being asked on Friday, there is an issue, perhaps, between you and Dr Sands as to how many times you spoke to him before you actually came to the ward and saw Claire. I think up until Friday your evidence -- and correct me if I'm wrong -- was that you had actually spoken to Dr Sands once, which was that period in the corridor. And at that time, apart from all the other things that you say you talked to him about, there were two issues that Dr Sands was particularly concerned about. Obviously he was concerned about her neurological presentation. But he was particularly concerned about whether he ought to be starting her on diazepam and whether he ought to be requesting a CT scan. We'll come to the CT scan later. But in terms of the diazepam, your view that that -- there was one conversation and the conversation happened whenever you met up in the corridor after your talk and then went into the room. That doesn't seem to be able to work, given that he took his lead from you that rectal diazepam was appropriate and rectal diazepam is recorded as having been administered at 12.15. I think your view was you might have spoken to him on the phone about that.

A. That's possible, yes.

Q. When did you first think you might have had some other

conversation with him apart from the time when you actually met him?

A. I can't recall any other communication before me seeing Claire.

Q. No, sorry. When was the first time it occurred to you you might have actually had two communications with Dr Sands as opposed to the one which has featured previously in your statements?

A. I think when I read his transcripts.

Q. Why did you think you might have had two?

A. Because he talked about me recommending the diazepam, which I hadn't recalled myself before.

THE CHAIRMAN: So having seen him say that, you think that might be right --

A. Yes.

THE CHAIRMAN: -- but you can't remember?

A. I can't remember.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: You hadn't recalled before that he wanted advice and guidance on the rectal diazepam or diazepam at all?

A. That I had agreed or recommended it, if you like.

Q. And so if you did that, then that must mean that you had some other conversation --

A. Yes, it made sense.

Q. -- because meeting him in the corridor is too late.

A. Yes.

Q. Was there any discussion about diazepam when you met him at lunchtime?

A. I can't recall. No, I don't think there was. I can't recall.

Q. So does that mean that you didn't actually appreciate that rectal diazepam had been administered until you came on to the ward and would have seen his note?

A. Until I came on the ward and discussed it with the nurse.

THE CHAIRMAN: No, sorry. There's a difference between what the doctor remembers 16 years later and what he would have known on the Tuesday morning. If he had spoken to Dr Sands earlier in the morning and given the go-ahead for diazepam, then he would not have been surprised later on that Tuesday to find that, when he came to the ward, that the diazepam had been administered.

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: I'm not sure how much it's going to be helpful to get bogged down in exactly how many times he spoke. The question is: what happened between them and what did Dr Webb do when he arrived to see Claire?

MS ANYADIKE-DANES: I think from Dr Sands' point of view, he probably does regard it as important that he is raising

issues just as soon as he can with Dr Webb because he regarded Claire's situation as being very serious.

THE CHAIRMAN: I've understood that. I get that entirely from Dr Sands, that he wouldn't have gone to see Dr Webb if he didn't think Claire's condition was very worrying indeed.

MS ANYADIKE-DANES: I think his point is that he didn't leave it to a phone call just to ask him, "Can I confirm whether it is all right to give diazepam?"; he actually had a fuller conversation with him earlier, as I understand his evidence to be, but I'll be corrected if that's incorrect.

But in terms of you appreciating what Dr Sands' position was, if I can put it that way, in relation to the diazepam, in his inquest statement Dr Sands says that -- the reference is 091-009-056, which we don't need to pull up -- the diazepam was after speaking to you. So if you had read the papers for the inquest -- I don't know, did you read the statements for the inquest?

A. I can't recall reading Dr Sands' statement.

Q. If I could just pick up some points with you in relation to the 2 pm attendance. If we pull up 090-022-054. I had asked you about -- if you see under "Impressions", "Yesterday's episodes".

A. Mm-hm.
Q. And I think the answer you got was that it was possible that she was -- or it is possible to have quite subtle non-convulsive seizure activity.
A. That's correct.
Q. But in relation to the "yesterday's episodes" point, I had asked you where you obtained that information from and I had taken you to -- just bear with me -- Dr Sands' ward note, which is just above there, when it says, "No seizure activity observed". And I think it was in response to that that you then said these things can be really quite subtle. Would that be a fair way of characterising it?
A. That's correct.
Q. And then when I asked you where would you get the information there and there was an issue as to how you might have done that, you provided a statement for the coroner at 139-098-018. If you look down at the bottom:
"I was uncertain after speaking to her grandmother ..."
And if we can pull up the next page as well, I think it goes on. Let's stay with the bottom bit:
"I was uncertain after speaking to her grandmother whether there had been definite seizure activity

witnessed on the day of admission [so that's the previously day, Monday 21st]. However, when I spoke to Claire's mother later on that afternoon, I obtained a history of a definite seizure affecting Claire's right side the previous day [that's the 21st] and I was in no doubt that she had indeed had a convulsive seizure on Monday, the day of admission."
The history that you are talking about, that's the where you come on to the ward at about 5 o'clock; is that right?
A. That's correct.
Q. And what you're saying is that when you were talking to the mother at that stage, she described a seizure to you.
A. That's correct.
Q. The mother had witnessed a seizure. In the record of attacks observed, she witnessed a seizure at 3.25. Is it at all possible that she was telling you about the seizure that might well have been uppermost in her mind, which is that one?
A. I have considered that since. I think it's unlikely because I think I would have been alerted to that because I'm almost certain I was told about the seizure at 3.25 earlier.
Q. Earlier?

A. Yes.
Q. When do you think you were told about the 3.25 seizure?
A. Because in relation to the contact that I had prior to starting the midazolam --
Q. Yes, but the midazolam is started at 3.25.
A. And I --
Q. And you have already described the process that you went through --
A. It's recorded as being started at 3.25 --
Q. It is recorded that it was started at 3.25 -- well, it's recorded in two places and we'll come to that in a minute. But you already went through, on Friday, the process by which you would have provided that prescription or dosage and it involved you hearing something from the ward, going to your office, checking through your papers, checking what the appropriate dosage was, phoning back to the ward to say what the dosage should be, that dosage then to be prepared, written up and administered. And I think you accepted from me that it's pretty difficult or might be quite difficult for all that to happen within the span of time of the seizure being recorded at 3.25 and the administration being recorded at 3.25.
A. That's correct, but my understanding is that Claire's mother witnessed the seizure at 3.25, so I don't think

that the medication could have been given at 3.25.
Q. Well, let's just have a look at the nursing note. The nursing note at 090-040-141. This is by either Staff Nurse Ellison or Staff Nurse Field. You can see:
"Stat dose IV phenytoin."
That's recorded:
"Seen by Dr Webb. Still in status epilepticus. Given stat IV Hypnovel [which is the midazolam] at 3.25."
A. And my understanding is that --
MR SEPHTON: I wonder if my learned friend could also put up at the same time the record of attacks observed, which is at page 144 in this bundle.
MS ANYADIKE-DANES: The record of attacks observed is 090-042-144.
MR SEPHTON: I don't know what my learned friend is putting, but the time there is recorded as "3.10 pm" and then there's -- Mrs Roberts has also written "3.25".
MS ANYADIKE-DANES: I think that may have been one of the occasions when you may not have been here for the evidence. The attack observed is at 3.25, it was observed by Claire's mother and she signed it and entered it. The attack is not observed and recorded at 3.10. It was thought that 3.10 might have been, for some reason, when the sheet was started for whatever

reason. We can't explain it.
THE CHAIRMAN: There's a question about that. It's a curious combination of entries about why she would be started at 3.10 before any attacks are observed, but Mrs Roberts was strong in her recollection that despite -- it goes slightly against the ordinary reading of the page, but she was quite strong in her recollection that the seizure she noted was actually at 3.25.
MR SEPHTON: The only point I make is when the nurse put "3.10" there, she made a mistake, and the same point needs to be made about the point at which the midazolam was administered.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Let's go to the drug sheet, which is 090-026-075. At the bottom, under the "Drugs once only" prescriptions, third line:
"Midazolam. 3.25."
So both the nurse and the doctor completing that drugs sheet have 3.25. But in any event, however that record of attacks is completed, as the chairman has said, Mrs Roberts was very clear about when it was happened. She was the only person there, she made a note of the time, she witnessed it, it was something she had never seen before, it left quite a powerful

impression on her and I believe she got the nurse herself and the nurse is the person who asked her to record, in the record of attacks, her observation. And her evidence is there on the transcript to see how she put the time and why she put that time there and why she is certain of it.
So where this all started was to suggest to you that perhaps there has been some confusion and that what you're referring to in this witness statement and since about the seizure activity is actually not something that happened the previous day, but is something that happened that day when Mrs Roberts was describing to you what she had just seen, close to just seen, and had made an impression on her, and that's what I was putting to you. Is that possible, that there could have been some confusion?
A. I think it's most unlikely.
Q. Most unlikely. Then if we pull up, again, the 139-098-018 and 019. As I understand Mrs Roberts' evidence, just so that it's clear, she is going to say that she only told you about the seizure at 3.25 that she witnessed, and her evidence so far has been, as intimated to the inquiry by her senior counsel Mr Quinn, that she definitely didn't describe any seizures happening on the day of Claire's admission. But if you

look and see what's said at the top of that 019:
"I believe my impression was that this girl, who had an undoubted epileptic tendency and had had a witnessed seizure on the day prior to admission."
That's a Sunday. What is the seizure that she's having on the Sunday?
A. That's a mistake. It should be "the day of admission".
Q. That's a mistake?
A. Yes. It was prior to me seeing her, the day of admission.
Q. But in any event, you have characterised these as a seizure, and the source of it is from Claire's mother; is that right?
A. That's correct.
Q. Yes. So in other words, if it's a seizure that Claire's mother could recognise as such and describe to you as a seizure, how does that fit with you saying, "Well, it might be something subtle"?
A. I don't think that Claire's mother may not have recognised it as a seizure, it may have been that we discussed -- I would have asked her questions that would have elicited a history that suggested to me that it was a seizure. But she may not herself have been aware that it was a potential seizure.
Q. But if that's the case then, wouldn't she have been

saying that sort of thing to Dr O'Hare, who took quite a detailed note of Claire's presentation when she examined her? Her note starts at 090-022-50; it's recorded at 8 o'clock. She took quite a detailed history from the parents. But there is no reference in there, as you go on then -- if one pulls up alongside that 051 -- there is absolutely no reference to a seizure there.
A. I think it's quite likely that Dr O'Hare would have asked the question, "Did Claire have any seizures?", but that's not the question I would have asked.
Q. Why do you think that Dr O'Hare would ask, "Did Claire have any seizures?"
A. Because that's what she's written.
Q. Is that not equally interpreted as her conclusion in the same way as you concluded from what Claire's mother, Mrs Roberts, told you, that she had had one? Is it not equally possible that Dr O'Hare concluded what Claire's mother told her, that she hadn't had one?
A. It is possible, yes, but I think it's more likely that she would have said to the mother, "Did Claire have any seizures yesterday?"
THE CHAIRMAN: In other words, if the admitting doctor goes through a history with a parent of a child's seizures, then it would be strange if the doctor did not ask when

the recent most seizure was, or if there had been a recent seizure?

A. Yes.

MS ANYADIKE-DANES: On the other hand, if what you're trying to find out is what's the cause of the child's presentation and how long she might have been like that, then you're putting a burden on the parent to interpret matters accurately for you. Are you not better off simply asking the parent to describe how the child has been and that allows you to use your clinical judgment as you say that you did on Tuesday to have reached a view?

A. I'm not suggesting that Dr O'Hare didn't do that; I'm just saying, in relation to convulsive seizures, she may have asked the question, "Did you see any seizures?", which would have been --

Q. Then I suspect we'll hear from the parents as to what they told Dr O'Hare. I'm not sure Dr O'Hare's evidence suggests any of that, but we'll obviously go through and see what she says.

In any event, you're saying that your description of seizure in the witness statement that you prepared for the coroner is to embrace your reference to "subtle, non-convulsive seizure activity"?

A. No, my understanding from my clinical note would be that

the story that I obtained from Claire's mum would have been a description of a convulsive seizure.

Q. A convulsive seizure?

A. Yes.

Q. Well, if she had convulsive seizures, why did you think she was now having non-convulsive seizures?

A. Because it's not unusual for the two to occur together.

THE CHAIRMAN: Yes, but if the two are occurring together, if that was your understanding, then having convulsive seizures is more serious on the evidence that you were giving earlier.

A. If they are longer, yes.

THE CHAIRMAN: Because that carries with it a greater risk of brain damage --

A. If you're having a 30-minute convulsive seizure, that's a major concern.

THE CHAIRMAN: Sorry, when you gave your evidence earlier this morning, I understood that you were drawing a difference between convulsive seizures, which carry with them a greater risk of brain damage, and non-convulsive seizures, which still carry a risk, but a lesser risk?

A. In the context of status epilepticus --

THE CHAIRMAN: Right.

A. -- which is a greater than 30-minute seizure.

MS ANYADIKE-DANES: We actually can see what Dr O'Hare did say. It occurs in two places. Her witness statement 135/1 at page 6. Let's go to that first. At (d):

"Explain if there were any alternative diagnoses and, if so, identify each of them and explain why they were not noted on the A&E notes.

"My working diagnosis was a viral illness. I appear to have written 'encephalitis' and then deleted it. My reason for deleting this as a differential diagnosis was the absence of fever. I believe I also considered a subclinical seizure as I have written to give diazepam if there were any seizures observed. However, the GP, the SHO and I, who took the initial history, appear not to have elicited the history of focal signs with right-sided stiffening on the day of admission. This is first recorded the following day by Dr Webb."

So she hasn't said that she asked her about seizures, she's trying to elicit a history which will allow her to reach certain conclusions. If we perhaps pull up alongside that a further reference, 135/1 at page 20. The very top:

"I believe Claire was unwell, but was difficult to assess in view of her past medical history. The absence of a fever made infectious encephalitis less likely. In view of her history of epilepsy the possibility of

non-convulsive states was a possibility, but there were no visible seizures on admission and EEG out of hours was not routinely available. On her admission, I felt an initial period of observation [and so forth] was warranted."

So from whatever was the history that she took, the clear view that she got was that there were no visible seizures if you look at those two things. I'm sure Mrs Roberts will give her evidence. So that just leaves the position as to why it was in the face of that you were able to nonetheless discern that Claire had suffered a convulsive seizure, which would have been obvious in a way that could be described so that somebody could have recognised it as such, on the Monday. Were you told when that convulsive seizure had happened?

A. I can't recall that.

Q. But that would have been an important thing to know.

A. Um ... Well, I may have been told, but I didn't record it.

Q. Were you told how long it had lasted for?

A. I didn't record that either.

Q. That would have been an important thing to record, wouldn't it?

A. Well, it was almost certainly a brief seizure if it

had --
Q. Sorry?
A. It was almost certain a brief event. If it had been lengthy, I certainly would have recorded it.
Q. Your evidence is you believed you were being brought in to offer specific guidance and opinion, so your evidence is you're not having the normal care of this or the general care of this child, you're coming in to do very specific things. Your note therefore has to be something that people who are having the general care of the child can readily interpret, understand and see the significance of.
A. Mm-hm.
Q. So if you're going to put that she had episodes, which in your note you don't actually describe as seizures -- as I understand it, you call them "yesterday's episodes".
A. That's correct.
Q. Why didn't you put it was a seizure?
A. Because at that time I wasn't clear in my own mind that it was.
Q. Did you revisit that at 5 o'clock and say, "Now that I've taken a fuller history from the mother, I can see that she had actually suffered a seizure on the Monday" --

A. That's correct.
Q. -- did you put that in your note at 5 pm?
A. I recorded in my history that that included an event --
Q. She had some focal signs on Monday and right sided stiffening.
A. That's correct.
Q. And that's a seizure?
A. Yes.
MR SEPHTON: The wording is "some focal seizure".
MS ANYADIKE-DANES: "Some focal seizure". I beg your pardon. That's why you go back and record that. If you were going to record that, would it not have been helpful to record how long you think that happened?
A. Well, not really because, as I said, if it's a brief event, the fact that it occurred is the most important thing.
THE CHAIRMAN: If it's brief?
A. Yes.
THE CHAIRMAN: That's the point really.
A. If it was a lengthy event, I certainly would have recorded it, but I clearly didn't get that history.
THE CHAIRMAN: I think in short, doctor, the concern is that you've recorded Mrs Roberts as telling you something on Tuesday at about 5 o'clock, which is inconsistent with her recollection and is also inconsistent with the

admitting notes. And it's something which, for instance, Dr Sands appears to have been unaware of, even having spoken to Mr and Mrs Roberts on that morning. And the question is then, in the same way as your note for the coroner or your preparatory note for the coroner describes Claire having had a seizure on the Sunday, could you be mistaken in recording that Mrs Roberts had told you she had a seizure on the Monday when in fact she was referring, if anything, to the Tuesday afternoon event?
A. I accept that's possible.
MS ANYADIKE-DANES: Thank you. I just want to move on and ask you a brief question about her notes. When you came to see her at 2 o'clock, you said -- and that's how this line of questioning started -- that you didn't have a very clear picture. And in fact, if you had looked at the note previous from Dr Sands, he also wanted to have a discussion with Dr Gaston. And I asked you a little bit about that on Friday. But what I'm interested to know is what is it you wanted to know. You've clearly recorded that I'm not really too sure about this child's background, effectively, so what is it that you wanted to know?
A. In relation to the prodrome, it was particularly whether if there were other symptoms that would suggest that

this was a viral gastro-enteritis.
Q. Did you want to know anything about her previous medical history at all?
A. I had obtained a previous medical history; it was in relation to her examination. It would have been helpful to know if there was a formal neurological examination done recently.
Q. And if you wanted to know that, did you ever find out?
A. I understand subsequently that Dr Gaston's report came back to the ward.
Q. No, I actually meant did you find out during the time when you were treating Claire whether such a thing had happened?
A. No.
Q. But if you wanted to know that, did you try and chase that up?
A. I don't recall.
Q. When you note that you don't have that clear picture with the clear impression that you would like to have it, if it was available, by the time you get back at 5 o'clock, do you not make any enquiries as to: do we now know the answer to that question?
A. I was particularly interested in the lead into this illness.
Q. I understand that. That's why I'm asking you. Did you

ask when you got back to the ward at 5 o'clock, "Do we now have whether she had such an examination?"?

A. No, I don't think I did.

Q. Why wouldn't you have done that?

A. I can't recall. I suppose my expectation that we would have had contact with Dr Gaston in that time frame would have been that we wouldn't have and it wasn't brought to my attention that there was a phone call through to the ward.

Q. Let me put it another way: when did you want to find out the information that you were seeking or would have liked to have?

A. Well, if it became available, as soon as possible.

Q. As soon as possible, exactly. So that's what I am asking you, leaving aside the nature of your contact between the 2 o'clock note and examination and the 5 o'clock one, leaving aside that, you certainly are on the ward at 5 o'clock because you have written that note or there or thereabouts. So that's why I'm asking you: why didn't you ask whether we've got the answer to the question as to whether she'd had that kind of examination previously?

A. Because I think my expectation would have been that we wouldn't have got it actually.

Q. They wouldn't have got it?

A. Yes. And I would have expected, if they had got it, they would have brought it to my attention.

Q. Did you think that you might just short circuit things and phone Dr Gaston?

A. No.

Q. But might that have been a faster way of getting something rather than he have to pull out whatever it is that he's going to have to pull out and fax to you or send to you? You could just have spoken to him on the phone.

A. The likelihood that I would have made contact with him directly would have been small and I think he would have had to go and obtain the chart. But in any event, my understanding was that that's what Dr Steen's team were going to do.

Q. You wanted to know the information because it was going to be relevant to how you were advising on her neurological preparation.

A. And the plan to do that was already in place, if you like.

Q. I understand that, but when it hasn't emerged by 5o'clock, did it not occur to you that a way to short circuit all of this and see whether you can get the information quickly is just to phone Dr Gaston?

A. It didn't occur to me, no.

Q. I had asked you the question about rectal diazepam and you had said that you thought -- and in fairness to you, it's something that is throughout your statements -- that you were told by a member of the nursing team or the medical team that she had improved after the rectal diazepam. And I had asked you whether that is recorded anywhere. I went through the notes that the nurses made for Claire. I can't see that there is a reference to her showing any improvement after having received the rectal diazepam. Did you see anything in her notes?

A. No, but it's recorded in my note.

Q. Sorry?

A. It's recorded in my note.

Q. I appreciate that. It is recorded in your note, but in your note, you are reporting what you say somebody has told you.

A. That's correct.

Q. Obviously you're not there at the time to see any such improvement, and I think your evidence on Friday was that if you were going to have an improvement with diazepam, it's fairly speedy if it shows and it can be as short as 15 minutes.

A. That's correct.

Q. So one would expect to see that sort of thing recorded in the notes, particularly if the nurses were then going

to tell you that there had been an improvement. Would you expect to see that?

THE CHAIRMAN: Perhaps. I'm not sure that the nursing notes are consistently that good.

MS ANYADIKE-DANES: No, no, no, I understand that, Mr Chairman; I'm asking what his expectations might be.

Would your expectation be that the nurse would record it if she was going to tell you at 2 o'clock that there had been an improvement?

A. She may not have done if she relayed it to me that there was an improvement. She may not have recorded it in her note as well.

Q. If we look at the note, 090-040-141. We don't know exactly when the note was made in fairness. Right at the top you can see:

"Rectal diazepam, 5 milligrams, given rectally."

And then it says:

"Commenced on CNS observations hourly."

There is no reference to there being an improvement as a result of the administration of the diazepam. Unfortunately, the observations don't start until 1 o'clock. I think that's right. One sees them at 1 o'clock at 090-039-137. The total there is 9. I think you had your own total for 2 o'clock; certainly, the nurse doesn't record the 2 o'clock one. But without

knowing what it was prior to 9, that doesn't help with recording any improvement, but certainly I think you've confirmed there isn't any in any of the notes and records, other than your won note that you were told that.

A. That's correct. 2 o'clock is a turnover time and it's also possible that it perhaps wasn't recorded.

Q. Sorry?

A. 2 pm is, I think, the turnover time for the nursing staff.

Q. Yes, but I think there's --

THE CHAIRMAN: Sorry, let's not get bogged down in this. Dr Webb made a note on 22 October, before things had gone catastrophically wrong with Claire, noting that she appeared to have improved following rectal diazepam.

MS ANYADIKE-DANES: Yes, and Dr Webb, so far I think you've identified two things of quite great significance. One is the 130 serum sodium level, which you thought was actually a test from the morning. That's significant --

THE CHAIRMAN: It's 132.

MS ANYADIKE-DANES: I'm so sorry, 132. That's significant for you because that allows you to discount anything that might be to do with her serum sodium levels because they're only mildly out of range.

A. That's correct.

Q. Yes. And the second important thing is that so far as you are concerned, there had been an improvement following the administration of the diazepam, and that's important to you because you interpreted that as being on the right lines, if I can put it that way, in terms of your differential diagnosis of status epilepticus of the non-convulsive type.

A. Correct.

Q. You diagnosed it as that and a particular treatment had been administered, which, if you were right about that, you would have expected an improvement and, so far as you're concerned, that's what you got. So that was diagnostically significant for you.

A. It was important, yes.

Q. And in fact, as a result of that, in many respects you continued on through the afternoon with a view that that was at the heart or the seat of her problem?

A. Well I think there was a lot more to it than that. This was a child who was at great risk of seizures. She had a fluctuating course, she was brighter at 7 o'clock than she had been at other times, which would be very against raised intracranial pressure as a cause, and she had responded to diazepam. So yes, there were several features that gave that picture, it wasn't just the diazepam.

Q. Was it significant to you that Dr O'Hare at midnight and a nurse having thought Claire was brighter, then she wasn't, that her parents thought she definitely wasn't brighter when they came and saw her at 9.30 and then Dr Sands was called and he shared their concern. How significant is that?

A. The significance is, if you have raised intracranial pressure, then the worst time for you is first thing in the morning. So for me, that was significant.

Q. Could she not have been developing raised intracranial pressure over the course of the day?

A. She could have been, but at presentation she had a neurological problem and that clearly wasn't explained by her sodium. So something else had to be explaining it and I think this was the most likely explanation actually.

Q. Yes, but that's why I'm putting it to you, that a combination of when you thought the 132 referred to and what you understood was the response to the diazepam allowed you to form the view that what you were dealing with here was non-convulsive status epilepticus.

A. They were two pieces of the jigsaw, yes.

Q. Two important pieces of --

A. Yes.

Q. And in fact you carried on with that view for some

considerable time.

A. Well, over the three hours that I saw her, yes.

Q. Even though -- and we'll come to it in detail, but just while we're here generally -- she didn't appear to respond to any further medication that you administered?

A. That's correct.

Q. If we then go to what happened at 2 o'clock proper in terms of your diagnosis. I had asked you some questions about this, Dr Webb, on Friday and I had told you that I would revisit it in terms of what some of the experts have said so you have an opportunity to comment on their view. Professor Neville has commented on it, both in his expert reports for the inquiry and also in his evidence when he gave oral evidence.

In his expert report, if we start with that, he says at 232-002-008 essentially that your assessment on the afternoon of the 22nd was:

"... a competent examination, but the interpretation failed to include the possibility of rising intracranial pressure to explain her reduced conscious level and motor signs."

So he is putting that you should have been thinking about that at 2 o'clock, irrespective of what you concluded about that being the position at 7 o'clock in the morning, if I can put it that way. Can you

comment on that?
A. Well, all I can say is that my clinical assessment was that raised intracranial pressure was unlikely at that time. There were no other features to suggest raised intracranial pressure, such as hypertension or bradycardia. There was no papilloedema. And I felt that the other diagnosis was much more likely.
Q. Her Glasgow Coma Scale -- you would have only seen one at that stage, to be fair. At 006, in relation to the view that you formed that it was non-convulsive status epilepticus, he says:
"I would not agree that non-convulsive status epilepticus was the likely diagnosis because it is not common and epilepsy was not prominent in this girl's recent history. In my opinion, non-convulsive status epilepticus needed to be proved by an urgent EEG and another more likely cause of reduced conscious level and poorly reacting pupils would be cerebral oedema, related to ..."
I beg your pardon, I think it should be page 5. I'm sorry. Then he says:
"The reduced conscious level and poorly reacting pupils would be cerebral oedema related to hyponatraemia and that should have been considered as a matter of urgency because, in its early stages, it is reversible

by treatment."
Can you comment on his first part, which is that non-convulsive status epilepticus is not common and then going on to his next bit, which is epilepsy was not prominent in Claire's recent history?
A. Yes. I think we differ on this point. I think a child who's had epilepsy in early infancy, as I mentioned on Friday, is at very high risk of recurrence of seizures in childhood. So we disagree on that point, I have to say.
Q. That is a good place to depart because he then deals with that in his transcript and one finds that in the transcript for 1 November 2012 at page 112. At the bottom:
"Her epilepsy had ceased, she was at significantly higher risk of developing epilepsy again, but the form of epilepsy that she had before, which was as I understand it, likely to be infantile spasms, is one which tends to have an end point to it, around 2, 3, 4-ish, and then to either go away or persist almost continuously with a different sort of epilepsy. So I think that the chances of it just starting in the middle of something which would be 3 or 4 years away is unlikely."
Can you comment on his view of the kind of epilepsy

that Claire was likely to have had when she was a baby and, therefore, the likelihood of the recurrence that you've just described?
A. Well, in fact, the seizures that she had -- as an infant, she had multiple different seizure types and she didn't have typical infantile spasms because her EEG didn't follow the pattern that was typical for that. So I'm not sure that he's correct when he refers to infantile spasms. It's certainly not a case of infantile spams. I'm not sure whether he is basing this opinion on his lifetime of experience of epilepsy, but certainly my understanding, at the time in 1996, from my reading, would have been, in the situation, Claire had a very high risk of recurrence.
Q. Did you appreciate at the time the likelihood of a recurrence in the way that you've described it might actually have some relationship to the type of epilepsy that she had had when she was a baby?
A. To some extent that's correct, but it's actually just having epilepsy in infancy is a major risk factor for recurrence.
Q. Then you disagree, do you, with Professor Neville when he says that it is significant, the type of epilepsy that you have when you're a baby or at least that Claire would have had, because if she had had a particular

sort, then the reoccurrence would have either worked its way out before now, effectively, or actually developed into full-blown continuous epilepsy. Do you see that?
A. In relation to the epilepsy syndrome that he's describing, I'm sure his experience is correct.
Q. Then can I ask you this -- sorry, I cut you off before you'd finished.
A. I've lost it, sorry.
Q. You said in relation to the type of epilepsy that he was describing that his experience was likely to be correct. Then I think you might have been going to say "but" and then distinguish it from something else.
A. But in the context of an infant who's had multiple seizure types, I don't think you can make that conclusion as clearly. That's what I'm saying.
Q. Can I ask you: when you were examining Claire on the ward at 2 o'clock, what knowledge did you have of the type of epilepsy she'd had when she was a baby?
A. Well, I had history from Dr Sands that she'd had seizures as an infant and had been under Dr Hicks. I think I also knew that she had had, as part of that, spasms.
Q. Can you say how you knew that?
A. From the history.
Q. Does that mean you read the history.

A. No, I'm saying he told me that she'd had seizures as an infant, that she had been in under Dr Hicks, but I can't recall any more detail than that.
THE CHAIRMAN: What was it that you learned which made you think that that these were not just -- if "just" is the right word -- infantile spasms?
A. I wouldn't have known the EEG results at that stage.
THE CHAIRMAN: But I thought, when you were distinguishing your view from Professor Neville's, you were saying: well, although he says they were likely to be infantile spasms, she had multiple seizure types.
A. That's correct.
THE CHAIRMAN: Where was that information coming from?
A. That would have been from Dr Sands.
THE CHAIRMAN: Right.
MS ANYADIKE-DANES: You mean from Dr Sands in that conversation that you had in the room off the corridor?
A. Yes.
Q. And for Dr Sands to have known that, is it evident where he would have got that level of detail of information?
A. Well, he may have got it from Claire's parents, I don't know. That's the most likely explanation.
Q. Can you help us? In --
THE CHAIRMAN: Sorry, with all due respect to Mr and Mrs Roberts, how likely do you think it is that they

were going to be describing multiple seizure types, using language or descriptions which would convey to Dr Sands that it wasn't just infantile spasms, but a variety of seizure types?
A. Well, it would depend on what description they gave of the events.
THE CHAIRMAN: Yes.
A. But it certainly would be possible to conclude that she had convulsive seizures or that she had events which would involve sudden jerking. It didn't require that they would describe them in medical terms.
THE CHAIRMAN: Sorry, I understand the point. Thank you.
MS ANYADIKE-DANES: If you didn't get it from them, then he would have been getting it from somewhere in the medical notes and records?
A. Yes.
Q. Can you see where there is information that will enable you to conclude that from her medical notes and records?
A. Yes.
Q. Where is that?
A. In her chart, the records of her original admission are there.
Q. He would have had to go back and look at that --
A. That's correct.
Q. Yes. And he would have had to have gone and looked at

that between him having carried out the ward round and coming to see you in order for you to have that information --
A. That's correct.
Q. -- because you didn't independently get it from her medical notes and records.
A. That's correct.
Q. I think Dr Sands' evidence was that he may not actually have read all her notes, even from her admission, and was rather relying on his SHO as he conducted the ward round to be telling him the salient points out of her admission notes. I don't think his evidence was that he went back and looked at the charts that she had when she was admitted when she was a few months old.
A. Okay.
Q. So if that's correct, the only source is from the parents.
A. That's correct.
Q. So then if we look at what Professor Neville said in his transcript of 1 November 2012 at page 119. I think his conclusion really was that you had gone too quickly and too strongly in favour of one diagnosis and missed what was a more likely diagnosis. I think that's the upshot of what he was saying. Do you see just under "The chairman" at line 7? In fact, I think it's really an

agreement with the way that the chairman has put it to Professor Neville:
"Question: This is your concern, that he went too quickly and too strongly in favour of one diagnosis?
"Answer: Yes, indeed.
"Question: And missed what you think was a more likely diagnosis?
"Answer: Sure, I don't deny that he worked hard at it and came back to see the child and did that sort of thing, but it was in the wrong direction."
And I think his view was that you should have kept broader range, if I can put it that way, of differential diagnoses before channelling so narrowly down the route of non-convulsive status epilepticus.
A. Well, Professor Neville seemed to imply that his interpretation of the situation was that the sodium of 132 explained Claire's presentation when she came into hospital, which I have difficulty with understanding.
Q. Well, I don't think --
THE CHAIRMAN: Sorry, I have to say I don't get that out of Professor Neville's evidence. I don't think that he, subject to correction, ever expressed the view that her sodium level of 132 did explain her presentation on admission to hospital. In fact, what he seemed to be saying was that 132 was a consequence of things like

vomiting during Monday afternoon into Monday evening, which prompted her to be brought to the hospital.

A. Okay.

THE CHAIRMAN: In fact, he said it wouldn't be unusual for children to be slightly below the range.

A. My understanding of his transcript was that he was implying that cerebral oedema may have played a role early in her admission.

THE CHAIRMAN: Okay. Well, I'm --

A. And I have difficulty with understanding that. I accept that she clearly did develop cerebral oedema, but I think there was another explanation for her presentation initially, and that was that she was having seizure activity.

MS ANYADIKE-DANES: Then if I can ask you to comment on Dr MacFaul's evidence. That can be found in the transcript on 13 November. If you go to page 75 and perhaps start at line 19. So I'm putting to him that your view was that the 132 serum sodium level was obtained from a sample taken that morning. We leave aside whether he thinks that's likely or not. I've asked him to assume for the moment that that's right and, as Tuesday moves on, it's understood somehow -- can we pull up 76 alongside that, please? It's understood somehow that the reading of 132 comes from that morning:

"It's low-ish, but it's not necessarily, on its own, particularly concerning."

Then I've asked him to express a view. He says:

"The view that I've expressed is that, for a general paediatrician, in a child without encephalopathy, it's not particularly significant, but I've also taken the view that for a paediatric neurologist where there is acute encephalopathy, even a measurement of 132 should have been a red flag that this common and very serious complication of hyponatraemia was evolving because it is well recognised over that time -- and I've given the sources from the textbooks -- that this was a problem that was well recognised. So I believe his action should have been, when he saw Claire, to have taken the steps to deal with it already, even on a figure of 132."

Can you comment on that?

A. I think Dr MacFaul's evidence -- I would argue with on the basis that he seems to imply that all children with encephalopathy have the same risk of cerebral oedema and that really is not the case. Children with head injury and bacterial meningitis are at particular risk of cerebral oedema from SIADH, and in that context, I would absolutely agree with him. In the context of a child who doesn't have that history, who has a previous history of seizures and epilepsy and presents with

a sodium of 132, I don't think that you would immediately think of cerebral oedema. If her sodium had been 129, that would be quite different.

Q. But when you were giving evidence on Friday, you hadn't ruled out the fact that there was an encephalitis, which is actually something that you had discussed earlier with Dr Sands.

A. That's correct.

Q. So that was still there. In fact, you couldn't rule it out because there had been no test that would have ruled it out at that stage. So you had that as a possibility.

A. I'm talking about bacterial meningitis, which is a different entity.

Q. I understand that, but an encephalitis is still, is it not, an infection of the meninges?

A. Of the brain.

Q. Of the brain, sorry. So that's serious --

A. It is serious.

Q. -- if you think you've got an infection in the brain?

A. But again, as a risk factor for cerebral oedema, it's not as great as you would have with somebody with bacterial meningitis or a head injury.

Q. And it's quite possible that that encephalitis was the underlying cause of the status epilepticus.

A. It's one possible explanation, but it doesn't require

that.

Q. But it's possible?

A. Yes.

Q. If you have all these things as possibilities and none of them are really being ruled out, why aren't you also bearing in mind that the 132, even if it came from a sample taken that morning, is a factor that might be relevant and let's get an up-to-date one?

A. Because I didn't think a figure of 132 was going to be relevant in the context of her having vomiting.

Q. So a slightly below --

A. If it had been --

Q. -- range serum sodium level, even with all these neurological presentations, is not relevant?

A. A figure of 132 for me at the time would not have caused concern to me.

Q. What do you think caused it?

A. Caused it?

Q. Why did you think it was 132?

A. Because she had been vomiting.

Q. Sorry?

A. Because she had been vomiting.

Q. But she's been receiving maintenance fluids.

A. She had.

Q. Yes, so why did you think she was 132?

A. Because that's what I was told, that she had a sodium of 132.
Q. I know. Sorry, at a very literal level you thought it was 132 because somebody told you she was 132. What did you think was the cause of her being 132?
A. She had a history of vomiting and loose bowel motions and that would certainly explain it.
Q. Which bowel movements?
A. I obtained a history from her mum that she had loose bowel motions --
Q. Three days ago.
A. That's correct.
Q. Yes. Well, how is that affecting how she currently is on the afternoon of the 22nd?
A. It's not, but it's related to her gastro-enteritis, which --
Q. It may or may not be. Three days ago might be completely irrelevant. Sometimes children do --
A. It's unlikely to have been completely irrelevant.
Q. But it could have been?
A. Unlikely.
Q. Her mother described it as "a smelly poo three days ago".
A. Yes, but in the context of a child who is vomiting subsequently --

Q. But she was only vomiting on the Monday.
THE CHAIRMAN: No, she vomited on Monday night, through Monday night, didn't she?
MS ANYADIKE-DANES: Exactly. What I'm putting to him is there appears to be a conflation of the loose motions and the vomiting, but in fact the loose motion occurs three days ago and the vomiting happens on the Monday afternoon and into the Monday evening.
A. I think it's much more likely that those two are connected than that they're not connected.
THE CHAIRMAN: But for you, doctor, if I understand it, a critical point in your analysis of Claire on the Tuesday afternoon at about 1.30 or 2 was that her recent sodium level was 132.
A. Yes.
THE CHAIRMAN: And your misunderstanding that that was a recent reading, in effect, set you in the wrong direction. If you'd known that was the reading from Monday night --
A. I think we would have considered cerebral oedema earlier, yes.
THE CHAIRMAN: Or, at the very least, you would have directed fresh blood tests.
A. Yes.
THE CHAIRMAN: Had that been done, everything might be

different, but because you thought this was a Tuesday morning reading of 132, you didn't go down lines that you would otherwise have gone down?
A. That's correct.
MS ANYADIKE-DANES: What did you think had triggered her non-convulsive status epilepticus?
A. A viral infection.
Q. And I think I had asked you before why you didn't treat that at the same time as at 2 o'clock, and I think you fairly said with hindsight maybe you could have.
A. Yes.
Q. So if I just pull up Dr MacFaul on 14 November, page 63. I am moving on to a different point here, which is the testing. There has been some criticism, I think, from Professor Neville and from Dr MacFaul as to the lack of testing, that you could have asked for a full blood workup, for example.
    If I start with an earlier reference, that might be more helpful. Can we go to 30 November -- sorry, it just starts there:
    "I have another rider to that."
    Can you see that there at line 17?
    "... Dr Webb saw Claire, the range of ..."
    When you did:
    "... the range of blood investigations carried out

was limited."
    Then he refers to the guidance in 1984, third edition, and the fourth edition, of Forfar & Arneil and the guidance in the Nelson textbooks and the paediatric neurology textbooks:
    "All -- certainly, the Forfar & Arneil include a range of investigations."
    And in his view, they were not done. He goes on, if we can pull up 77 in substitution for the 63:
    "The next step for Dr Webb to have done at the 2 o'clock consultation in my view -- and supported by the guidance of the time -- is further blood tests then. So that even if the sodium was thought to have been done in the morning, another blood test should have been done for liver function tests, for blood ammonia, and possibly toxins. And had that been done as a consequence of this convulsion, the blood sodium, which on balance of probability would have been much lower, would have been available and knowledge would have been there towards the end of the afternoon on the 22nd."
    So his point is obviously that even though you didn't have a further blood test for the serum sodium because you thought you had a result from not so far away, if I can put it that way, you should, according to

the appropriate practice of the time, have been asking for fuller blood tests. And if you had had those further blood tests, that would have given you the serum sodium level anyway, even if you weren't setting out to get that specifically. Do you accept that you should have asked for more blood tests?
A. No, I don't.
Q. Why is that?
A. Because you are talking about the accepted practice at the time. The textbook essentially comments that these are tests that may be helpful. They're not prescriptive tests and I had no evidence that Claire had evidence of liver damage, she had a normal glucose and I had no reason to think that she had ingested toxins.
Q. But you didn't know.
A. I think it's most unlikely that she would have, given the supervision that she had.
Q. But --
A. And --
Q. Why not simply do -- since you're really at a stage of trying to find out what's wrong with her, instead of forming an earlier conclusion, why not just do a broad range of blood tests and see what they disclose to you to see if that helps you in refining or confirming your differential diagnoses?

A. Well, it may be an issue of approach. I think some people take a broad sweep and do lots of blood tests and others target their investigations to what they think is the most likely diagnosis.
Q. But it's just information, isn't it? It's a bit of a detective work when you have a child who presents like Claire.
A. Sometimes it is, that's correct.
Q. And this is just further information that allows you to see what is happening. So why not do it?
A. Well, I think you have to think about what you're looking for when you do your investigations. So in some people with a viral infection it's quite likely that the liver enzymes will be slightly elevated, but it doesn't help you any further really.
THE CHAIRMAN: Does this indicate your degree of confidence in believing that Claire had non-convulsive status epilepticus? If you hadn't been that confident then you would have --
A. To some extent I think that's true, but I think my sense is that the important investigations that were relevant had been done and doing a test for liver function, which may not have come back for several hours or perhaps even the following day, wouldn't have been terribly helpful. Toxins were very unlikely to be relevant to her

presentation, really.
MS ANYADIKE-DANES: Then if we go to -- I think that it's Professor Neville who expresses a similar view. I'm hoping to find that at 232-002-008. Perhaps if we can pull up, alongside that, 009. Sorry, I think I have got the wrong test for that.
THE CHAIRMAN: I think it's (b) at the bottom of page 008, is it not, repeating electrolytes and so on?
MS ANYADIKE-DANES: Thank you, Mr Chairman:
"I have stated that, six hours after the first blood test, the electrolytes should have been repeated."
That actually, if you had thought that the blood had been taken at 8 o'clock in the morning, which I think was your evidence on Friday, and that therefore there were test results available for the ward round, if that's the case then carrying out a test six hours after the blood test would have taken you roughly to the time of this examination at 2 o'clock. So that's Professor Neville's view, that leaving aside, if I can put it that way, when you thought it had happened, and assuming that you did think it had happened at 8 o'clock, then on that basis, it would have been appropriate to have asked for further tests at round about 2 o'clock; do you accept that?
A. That would not have been my practice to do a sodium that

quickly after the original one.
Q. No, I don't mean what your practice would be --
A. But I accept that he may have that view.
Q. In a case such as Claire's, which is a little bit complicated because there are so many things that could actually be either the underlying problem or maybe the presenting problem is the problem, there are a number of interlinked conditions that could be the explanation for her presentation and then, once you've worked that out, then you know how you're going to treat it, if I can put it that way. Bearing that in mind, is this not a time to be a little bit broader, not just in the tests that you do but also maybe to think of doing things perhaps more frequently than you would normally do?
A. I think, in retrospect, you could argue that.
Q. That would have been a reasonable thing to do, to have asked to have a repeat blood test at 2 pm?
A. It wouldn't have been what I -- at the time, what I would have done, but I can see why he could make that statement.
Q. And do you accept that?
A. Yes.
MS ANYADIKE-DANES: Mr Chairman ...
THE CHAIRMAN: Okay, we'll take a 15-minute break and resume at 11.25 until lunchtime.

(11.10 am)

(A short break)

(11.31 am)

MS ANYADIKE-DANES: You, I think, when I asked you as to what you thought your diagnosis was, you said you thought that she was experiencing non-convulsive status epilepticus; is that right? If we pull up the two parts of your note from 2 o'clock, 090-022-053 and, alongside that, 054. Do you actually state that in your note?

A. No, I didn't. But it's implicit in the pictures of acute encephalopathy, most probably postictal in nature.

Q. Well, would it not have been helpful to have actually spelt it out, what you thought it was?

A. Well, I had discussed it with Dr Sands and he was the person who was senior person on the team, so --

Q. But it may not only be -- forgive me -- Dr Sands who has to look at these notes and records. Dr Sands isn't actually there when you examine Claire at 2 o'clock. I don't believe he's there when you examine her at 5 o'clock. Who you do see are relatively junior members of the team, an SHO, I think who is three months into his paediatric rotation. Those people also have to look at the notes that you write and rely on them for guidance. Should Dr Steen have been asked, "What's been

written in the notes?", if she contacted the ward, then she would be relying on somebody perhaps to read out what you have written so that she knows what the picture is. Would it not have been helpful to have spelt out what you think you have here is a confirmation of what Dr Sands' impression of non-fitting status; would that not have been helpful?

A. I think it perhaps would have been helpful, but I would have conveyed my feelings to the nursing staff and to Dr Stevenson after seeing the child.

Q. So you think you would have explained this to Dr Stevenson?

A. Yes, to the medical and nursing staff at the time.

Q. And then the question that -- and you might have answered this and forgive me if you did and I didn't appreciate it: the underlying cause of all this was what you believed to be a viral infection of some sort.

A. I think the fact that Claire had come off her medication, had been off it for a period of time, put her at risk and the trigger was almost certainly her viral infection.

Q. So the fact that she had been off her medication for about 18 months or so, I think it was, you thought that in and of itself put her at risk?

A. Yes, because she was a child, as far as I was concerned,

who had a risk of further seizures.

Q. Did you know that she had been off her medication for that length of time at this stage or is that something that Dr Sands told you?

A. Dr Sands told me.

Q. So when you say she had been off her medication, that put her at risk. Then she'd had contact with somebody who you formed the impression had had some sort of tummy bug and that was a viral infection, you thought. How does that give rise to the picture of acute encephalopathy? How do she develop, out of all of that, an acute encephalopathy?

A. Well, encephalopathy just implies that there's an alteration of consciousness, with or without seizures.

Q. And what does acute mean?

A. Acute means recent.

Q. Right, so a recent change in consciousness?

A. Yes.

Q. "Most probably postictal in nature"; what does that mean?

A. That's relating it to her seizures. "Ictal" is seizures.

Q. Yes. How long do you think that presentation carries on after she's had a seizure?

A. I'm using it here in the context of her having

non-convulsive activity. I wasn't aware at this stage whether she had or hadn't definitely had seizures the previous day, but I was suspicious, so it was really in the context of it being epileptic, if you like.

Q. How do you tell the difference between the seizure itself when she's non-convulsive and the aftermath of the seizure, which is the post-ictal? How do you tell --

A. It's very difficult. In somebody who's had a convulsive seizure, they're always encephalopathic afterwards for a period.

Q. But when somebody hasn't, which is what you thought you were dealing with with Claire, how would you know whether what you were looking at was her at that moment in a non-convulsive fitting state or her in the aftermath of having had a series of non-convulsive fits?

MR SEPHTON: I'm sorry, can my learned friend please be a bit more clear because I for one don't understand how you can have a non-convulsive fit. It's either a fit or it's not.

MS ANYADIKE-DANES: A non-convulsive state?

Well, if it's non-convulsive what exactly is happening in the brain?

A. The brain is producing electrical activity that should not be there and it is either continuous or

semi-continuous. It can be difficult to know whether it is continuous or semi-continuous.

Q. And the difference is that, apart from the degree of activity in the brain, if you've got a convulsion, you can actually see that, and if you have got a non-convulsive state, you can't see the physical manifestations of that?

A. The outward manifestation is more obvious in somebody who's having a convulsive seizure whereas --

Q. That's what I meant --

(Intervention from the stenographer)

A. I'm sorry. The outward manifestation is more obvious in somebody who is having a convulsive seizure. In a child who is having non-convulsive seizure activity, it may just be that they have a change in behaviour.

Q. Would a better term have been "subclinical seizure"?

A. Some people use that term.

Q. So there is electrical activity going on, it is just a matter of whether you can see, in a more direct way, the product of that?

A. Yes.

Q. Then the question I was asking you is: how can you tell the difference, if you formed the view that what the child has is the non-convulsive condition, if I can put it that way, so where you're not going to see readily

the physical appearance of it? How can you tell whether that's what is going on at the time or what has happened is that the postictal phase of one of the seizures, the actual convulsions that you thought she had had the previous day?

A. Well, I don't think that she was postictal from the previous day because it wouldn't last that long. The postictal effect of a convulsive seizure lasts for a period of about an hour or two.

Q. Can you have a postictal effect from the electrical activity associated with a subclinical seizure?

A. Not usually.

Q. So you're either having the subclinical seizure or you're not?

A. Yes.

Q. So if you translate that back into Claire's case, and when you're looking at her too:

"The picture is of acute encephalopathy, most probably postictal in nature."

What does that mean then?

A. It's implying that it's relating to seizure activity, but I'm not certain how much of this was previous convulsive activity or non-convulsive status. I didn't have the history from the previous day, but I can see how it's confusing because it might imply that she had

a convulsion that morning, which she clearly hadn't had.

Q. If somebody was reading that out to Dr Steen, for example, who might have been trying to update herself on what the position was, would she readily appreciate what you meant if somebody read that out?

A. I think she would have in the context of the overall history, yes.

Q. And does that mean from the way you've put it that the acute encephalopathy is produced by the postictal state or as a result of the postictal state?

A. It's produced by the non-convulsive status.

Q. So the viral infection causes the non-convulsive status and that produces the acute encephalopathy?

A. Correct.

Q. That's the sequence for you?

A. Yes.

Q. If we just pull up what you said in your evidence about it, 138/3, page 4. You say:

"I must have felt ..."

THE CHAIRMAN: Whereabouts on the page?

MS ANYADIKE-DANES: It's in relation to 2 o'clock, at (b):

"I must have felt, when I saw Claire first at 2 pm on October 22nd, that I had sufficient evidence to treat Claire for non-convulsive status epilepticus."

And do I understand you, so that Professor Neville

can comment on it, that that evidence that allows you to consider was sufficient was her history of risk, the description of her presentation -- what was the subsequent behaviour?

A. The fact that she continues to have vacant staring and poor responsiveness.

Q. And the improvement that there was to the initial administration of diazepam. All those things allowed you to feel that you had sufficient evidence to start treating Claire for non-convulsive status epilepticus?

A. That's correct.

Q. If you'd wanted to confirm that, what would you have done?

A. The only way of being certain was to have done an EEG.

Q. That's what would have confirmed it?

A. Yes.

Q. And do you accept, as Professor Neville considers it, that in not seeking to see whether anything else was going on, for example the development of her cerebral oedema from some other cause, and therefore being able to address that through, for example, restricting her fluids or taking some steps of that nature, meant that there was a risk that you were not treating something that could actually have been getting worse all the time you were focusing on the non-convulsive

status epilepticus?
A. I think I did focus on the non-convulsive status and I didn't feel at this time that Claire had clinical evidence of cerebral oedema or that that was likely in the presentation.
Q. But if you were incorrect about that, then what you were doing wouldn't actually have been addressing that mechanism for the development of cerebral oedema and deterioration as a result of cerebral oedema?
A. I think that's correct.
Q. So the anticonvulsant therapy that you prescribed for her would not have affected that?
A. No. No, that's correct.
THE CHAIRMAN: In a sense, doctor, that's right about any diagnosis, isn't it? If you identify her illness going in one direction, if you treat that and if that assessment is wrong, then there's always the danger that another problem which you have missed or you haven't missed but you thought was a much lower risk could be getting worse at the same time?
A. That's correct, yes.
THE CHAIRMAN: What that leads on to then is how confident you are about your diagnosis and what the extent of the recent testing is. You're relying on test results; as you now know, it turns out that the test result was from

Monday night, not from Tuesday morning.
A. Mm.
THE CHAIRMAN: So it was already, by the time you saw her, some time about 1.30, 2, Claire had not been tested for this at all since Monday night. And that therefore increases the consequence of your diagnosis being incorrect, doesn't it?
A. I think that's correct. I think in clinical practice you're all the time trying to measure what's the most likely explanation for this presentation.
THE CHAIRMAN: Exactly. I don't have any trouble at all understanding that. On a general level, once you go down one route with a patient because you have a degree of confidence in it, the alternative routes -- you close them off, but you don't forget them, I assume, do you?
A. No. No. And I would have had an expectation that a sodium would have been repeated that afternoon at some point because she was a child on fluids. So that would have been my expectation.
THE CHAIRMAN: At some point on Tuesday afternoon?
A. Yes.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Apart if the fact that that might be a good idea because she's on fluids, was there any particular reason why you expected in the Children's

Hospital at that point without a specific direction to do so that they would have taken a further blood test for serum sodium levels in the afternoon?
A. I think that was a reasonable expectation and it would usually be done before 5 o'clock, so it was done within hours, if you like.
Q. I'm just trying to confirm: are you saying in 1996, in the Children's Hospital, that was a practice that if children were on IV fluids, that they would have their bloods done again in the afternoon?
A. I don't know that I knew that for certain. And I understand that there was a practice at the time that bloods were done once a day, which I subsequently learned. But my expectation at the time would have been that they would have been repeated, but I accept that I wasn't, if you like -- I was on a ward that I wasn't unfamiliar with perhaps.
Q. Well, you have just said fairly enough that the practice would have been once a day, I think as you understood it.
A. I didn't understand at the time, but I subsequently learned.
Q. You subsequently know now?
A. Yes.
Q. What did you think the practice was in 1996? You had

your own patients, you conducted your ward rounds and so forth: what was the practice about taking bloods and measuring electrolytes?
A. My own practice was that if a child went on to treatment with fluids on an evening, that the bloods would be done the following morning, and if there was anything that was unusual about the result, it would be repeated the same day.
Q. Yes, but routinely what was the practice? Were bloods routinely done in the morning for the ward round, twice a day? What was the practice?
A. I've just told you. I think if they were required, they were done first thing in the morning and, if necessary, they were done later in the evening before 5 o'clock.
Q. And who is the person who exercises the judgment that it's necessary to do it later on in the afternoon?
A. It's usually the registrar.
THE CHAIRMAN: When you came back at 5 o'clock, whether you were physically there at 3 or 3.30, does that mean that you were expecting to see --
A. I wouldn't have expected to see a result at that time, but I would have expected that a test would have been sent.
THE CHAIRMAN: And would you have expected a record that the sample had been taken?

A. I can't recall.
THE CHAIRMAN: You know, as it turns out, that didn't happen.
A. That's right. I don't think that all blood tests would have been necessarily written into the notes.
I wouldn't have expected that written into the notes.
MS ANYADIKE-DANES: Sorry, if bloods have been taken and sent off for testing, you wouldn't expect that to be written in the notes?
A. The result would be written in, but we wouldn't expect the request necessarily to be written in.
Q. If you were expecting that to be done, which is something that would be useful for you to know, did you ask whether anybody had done that?
A. No, I didn't because I wasn't at the time ... As I said, managing the fluids, I felt that was being dealt with.
Q. But you knew what fluids she was on.
A. I wouldn't have known the exact fluid. It would have been a maintenance fluid, which would be routinely fifth normal --
Q. Solution No. 18, wouldn't it?
A. Yes.
Q. So unless something rather different had been prescribed, you knew she was on IV fluids and she had

been on IV fluids since the previous evening.
A. That's correct.
Q. Yes. So unless something odd is there, you would expect that she had been on IV Solution No. 18 pretty much since she was admitted?
A. That's correct.
Q. Professor Neville says in his evidence on 1 November 2012 -- we don't have to pull it up -- that you should have been aware of the potential problem of low solute fluids in this situation. Were you aware?
A. I wasn't aware that there was a specific concern about fifth-normal saline.
Q. No. Were you aware that when you have neurological problems that low-sodium fluids can in themselves be a problem?
A. I was aware that they could be a problem in the context of SIADH or renal impairment.
Q. But is that something that you thought or should have thought --
A. It wouldn't have been a concern for me in somebody who did have SIADH, who had an encephalopathy with seizures, for example.
Q. That wouldn't have been a concern?
A. No, it's specifically in the context of SIADH that it's a concern.

MR FORTUNE: Sir, bearing in mind the answers Dr Webb has just given, that he had the expectation that blood would be taken again at about 5 o'clock and that that was effectively the responsibility of the registrar, on behalf of Dr Steen, can we find out whether in fact Dr Webb is saying there was a protocol in existence? After all, Dr Webb had been a consultant at the hospital for a year and would have known what the protocols were, if any such protocols existed.
THE CHAIRMAN: I think he said there wasn't a protocol.
A. I don't think there was a protocol specifically.
THE CHAIRMAN: In essence then the question is: if there wasn't a protocol, what was the basis for your expectation that there would be bloods taken at about 5-ish?
A. If there was anything that -- if the sodium result was a little bit low, I think that's something that you would expect would be repeated.
THE CHAIRMAN: Right.
MS ANYADIKE-DANES: Well, at that time was Claire essentially in a coma?
A. Claire was still responding.
THE CHAIRMAN: Sorry, let's just clarify. Are we on to 5 o'clock now?
MS ANYADIKE-DANES: No, at 2 o'clock.

A. At 2 o'clock, I don't think she was in a coma. She sat up and she was interacting with me.
Q. Then if I put it to you again what Professor Neville said a little bit later on in that evidence, which is at 161, that you had the responsibility to provide a cautionary note, essentially, because this is a particular feature of neurological -- let's pull it up so that we can see it. It's the transcript of 1 November, page 163, starting at line 6.
The question was:
"Question: Do you think that it was part of Dr Webb's role and responsibility to provide that cautionary note or warning, even though his view is that he was simply being brought in to give some discrete neurological opinion?
"Answer: Yes, I do think he has that responsibility because this is a particular feature of neurological conditions, and therefore if you don't know about it, then you can't be sure that anybody else will."
What he's talking about is the importance of managing the fluids, and it goes back to the point in the textbook that I put to you earlier, which is the homoeostasis, which you said could include maintaining the electrolyte levels within the range.
A. I don't know what neurological conditions he's referring

to there.

Q. I think he's referring to the --

THE CHAIRMAN: Let's go back to page 162 if we can. Thank you. I think if you look at line 14 in the middle of 162:

"He should have alerted people to the need not to give anticonvulsants, which is what were planned, unless he had satisfied himself as to where he was and it should be within his field to at least know about the dangers of low sodium levels and to have some method of managing them."

A. It doesn't really help me in terms of what he was referring to in terms of "neurological conditions". Was he implying it was because of Claire's epilepsy and learning disability or ...?

MS ANYADIKE-DANES: I think he might be referring to an extract out of Nelson in terms of the conditions. I'm not saying he specifically was citing Nelson, but this is the sort of area he's into. We can pull that up. 011-018-007. Under 56.6, "Electrolyte disturbances associated with central nervous system disorders", where it says:

"Diseases of the central nervous system are frequently associated with disturbances in sodium concentration. Patients with ..."

It goes on and you see in there "encephalitis", which is one of the things you had discussed with Dr Sands, and if you carry on through that list:

"... may present with hyponatraemia. Most hyponatraemia in this setting is associated with normal total body sodium with minimal or negative sodium balance. A decrease in serum sodium is also entirely the result of retention of water."

And then it goes on to say how you have to manage that.

So I think that's the sort of thing that he is warning against, that there is an interrelationship between the development of these conditions, the application of low-sodium fluids, and even the relationship between the encephalitis and the development of the SIADH and so on.

So that's, as I understand it, what he's saying, that is within the provenance, if I can put it that way, of a paediatric neurologist, not necessarily within the knowledge, experience and expertise of a three-month paediatric SHO. So his statement is: you know that or should know that far better than they, and you should be guiding them. I'm putting his words to you because although I had asked you about that earlier, I hadn't put to you his own view about that, and he's going to

come and give his evidence thereafter, so I'm wondering if you want to respond to what he says.

A. Well, that list does not include status epilepticus or non-convulsive status, and as I said, I think the risk is significant in traumatic brain injury and in bacterial meningitis. I thought, at 2 o'clock, that encephalitis was unlikely in Claire because she had no fever, so it wouldn't have been high on my differential at that stage.

Q. I understand that you say that, but she hadn't had a fever when you discussed encephalitis with Dr Sands, whenever it was earlier, because she'd never had a fever.

A. That's correct and I think we discussed that encephalitis might be a differential, but it wasn't high on our differential.

Q. It was sufficiently high for him to go and add it to the note that Dr Stevenson had taken. So why did you think that that was a potential differential even though there was no fever and now, at 2 o'clock, when she still doesn't have a fever, you don't think so?

A. I'm not saying I didn't consider it; I'm just saying I didn't think it was likely that she had encephalitis.

Q. But what had changed for you to have thought it was likely when you were speaking to him not so long ago --

MR SEPHTON: Sorry, my learned friend is misquoting the witness. He has never said it was likely; he said it was a possible differential diagnosis. It's unfair to put to him that he thought earlier that it was likely and now he didn't.

THE CHAIRMAN: He consistently thought it was a possibility but not a significant possibility; is that a fair summary?

A. Yes.

MS ANYADIKE-DANES: But I think that you'd just said that you had moved it lower down the register, if I can put it that way, at 2 o'clock.

A. I didn't mean to imply that. I still felt it was less likely, really.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Had its likelihood changed since you spoke to Dr Sands and when you saw Claire at 2 o'clock?

A. I don't think so. I can't remember, but I don't think so.

Q. Because I think that's what you said in your evidence on Friday, but we can pick it up if it is relevant.

MR GREEN: If I may assist because it may be that my learned friend, Mr Sephton's, criticism of Ms Anyadike-Danes was unfair. If we could pull up witness statement 138, page 20, please? 138/1, page 20.

This is Dr Webb's first statement and, if we go to (e), he's asked about his examination of Claire on the 22nd at 2 o'clock. If we go down to the bottom three lines:

"I also considered meningoencephalitis as a likely underlying diagnosis."

THE CHAIRMAN: Doesn't he start (e) by saying -- before he goes into 1, 2, and 3, he says under the general heading of (e):

"I had a picture of non-convulsive status epilepticus possibly associated with viral infection and possibly encephalopathy."

MR GREEN: Absolutely.

THE CHAIRMAN: And then he's asked to expand on the encephalitis at (iii), and he says:

"Claire had a history to suggest ..."

MR GREEN: That's right. I simply raise it because perhaps Mr Sephton's interruption was misdirected.

MS ANYADIKE-DANES: Can you also clarify this point? Did you think that there was a real risk of SIADH as a result of whatever were your differential diagnoses that you were formulating at 2 o'clock?

A. No, I didn't.

Q. You didn't?

A. No.

Q. Can I ask you about the issue of raised intracranial pressure? In your witness statement, 138/1, at page 64, you said that:

"[You] didn't consider raised intracranial pressure as a cause of Claire's presentation because that would not usually be a feature of non-convulsive status and I did not think she had a neurosurgical emergency or bacterial meningitis, which might account for cerebral oedema and raised ICP."

And then I think you go on to say that you did not note that she -- I think you went on to test and found that she didn't have papilloedema. And I think that that comes from your statement to the coroner at 090-053-173. We don't have to pull it up, but you say:

"I would specifically have checked her for evidence of raised intracranial pressure by examining the back of her eye with an ophthalmoscope for papilloedema and I documented that this was not present."

But if she had had papilloedema at that stage, that occurs rather late in the process of raised intracranial pressure; isn't that right?

A. It can do, but if she had papilloedema, it would have been a very different situation.

Q. Of course. But the issue is: is she developing a raised intracranial pressure that can be addressed there before

it goes much further and causes real damage? The bit about papilloedema being very late in the process -- it's not my wording, it's Professor Neville's evidence on 5 November at page 14. And there he says:

"Papilloedema is very late in this process, so you would expect to be spotting this ['this' being the signs of raised intracranial pressure] before papilloedema had appeared and if you had papilloedema, you'd know you'd probably had it, you'd know you were beyond the point of no return."

So what you're trying to do is to make sure that you've spotted the signs of developing intracranial pressure before you get to that stage so that you can actually treat it and avoid it.

A. I don't accept that papilloedema is always very late in this process. Unfortunately, detecting raised intracranial pressure can be difficult clinically.

Q. But is that something that you think you should have been seeking to detect at that time or seeking to ask yourself the question, might I be seeing a child who is developing raised intracranial pressure and should I therefore be trying to address that?

A. I would have been alerted to -- aware of that and I would have been conscious of blood pressure and heart rate and her optic discs.

Q. How else would you have detected its possibility?

A. Well, early on, headache is a predominant symptom. Subsequently, vomiting.

Q. If you had carried out a CT scan, for example, would you have been able to see that, whether there was evidence of something that could be causing raised intracranial pressure?

A. Not necessarily.

Q. But could you have?

A. Yes, you could have, but not necessarily. In the early stages of cerebral oedema, the CT is often normal.

Q. Then if we move to the attendance with Claire at around 3 o'clock. You know from Friday that there is an issue between you and Dr Stevenson as to in what circumstances the prescription or the suggestion for midazolam was communicated to the ward. Your view is that you telephoned that through.

A. I can't recall the details of this consultation, but I certainly had contact from the ward and --

Q. I think you have fairly said you can't recall the details, but is it also fair to say that you could have attended the ward?

A. It's possible that I did, but I think it's unlikely.

Q. The reason I say that is because there are any number of statements that you've made or places in your statements

where that would suggest that you had indeed done that.
A. And those statements are in response to questions from the inquiry, which seemed to place me on the ward at that time. So I was ...
THE CHAIRMAN: Which at least, to some extent, are prompted by the medical record, which says, "Seen by".
A. Yes, that's correct.
MS ANYADIKE-DANES: Can I just put one to you? Well, in fairness, because I've been asked to, let me put them to you. There's a witness statement at 138/1, page 3. And in that, you say -- and this is the point that the chairman has just put to you:
"From the clinical notes, it appears that I met with Claire and/or members of her family at 2 pm, some time around 3.25, and at 5 pm on October 22."
A. That's correct.
Q. So that's where you got that from?
A. Yes.
Q. And then you go on at page 12:
"I saw Claire on two further occasions following my initial consultation at 2 pm."
And then at page 28 you say -- and we don't need to go to that either. You say:
"I assessed Claire's clinical state three times on the afternoon of 22 October."

And that's how matters lie, really, until we get to your third witness statement, where you say at page 2, 138/3, page 2:
"I believe my communication with the medical staff in relation to [and it's the midazolam we're talking about] was most likely to have been by phone as I did not attend the ward until some time later and did not write the dose myself in Claire's note."
But then you go on at page 4 of that witness statement to say:
"On my second visit to the ward at 3 pm, the description of Claire's definite seizure since I had last seen her in many ways reinforced my belief that seizures were central to Claire's presentation and needed to be treated."
So although you've got the point at 2 that you'd been there only twice, that's not sustained, if I can put it that way, through that statement.
And then you say -- I think this is to the coroner -- at 090-053-165. In fairness, you say:
"It would appear from the notes that I reviewed Claire during the afternoon because of concerns about ongoing seizure activity and recommended the use of midazolam."
So this is closer in time, if I can put it that way,

to the inquiry's witness statements and you seem to associate them -- sorry, I beg your pardon, we might want the first page. Although you say that there to the coroner, on the first page of your coroner's witness statement, you refer to seeing Claire twice. So the picture does appear a little confused, but I'm trying to be fair to you because it hasn't necessarily all been one way, if I can put it that way, and the reference to seeing her twice is at 090-053-161.
But this is the one that I would like to come to, which is your reference in your first witness statement for the inquiry, which is at 138/1, page 31. It starts "I believe":
"State what information [it's in answer to (xiii)] you communicated to Claire's parents and family and when and where you told them this information, and where the information you communicated was recorded or noted."
You say:
"I believe this was recorded at 3.25 pm."
And there's a reference there to the notes:
"I believe this was for a short period and I did not write a clinical note at this point. I cannot recall who was present or whether members of Claire's family with present. I don't believe I undertook a formal examination at this time. I would have reviewed

Claire's GCS score and nursing observations, which did not show evidence for hypertension or bradycardia that might be seen in raised intracranial pressure."
It goes on:
"I was of the ongoing impression that Claire was in non-convulsive status and did not give consideration to SIADH as I understood her sodium level to have been satisfactory earlier that morning."
And then it goes on about not discussing matters with members of the PICU staff. That seems to be actually quite a detailed account of what you think you were doing at 3.25.
A. I was trying to answer the inquiry's queries and, as I said, essentially the notes on two occasions seem to place me on the ward, but I've no recollection of going back to the ward at that time.
THE CHAIRMAN: And Dr Stevenson doesn't remember that day at all, so really it's an open question as to whether you were there or not.
A. Yes, I can't recall.
THE CHAIRMAN: If that's the position, doctor, why then did you say in your third witness statement that you think your contact was probably by phone?
A. Because I must have had contact --
THE CHAIRMAN: Yes, you did have contact. There's no doubt

you did have contact. But until that third statement, which is the recent one, you seemed to have been working without any clear recollection, but on the basis that you were probably there on the ward yourself at some time soon after 3, and then that changes in the third witness statement to "I probably wasn't there at some time after 3, this contact was probably by phone".

A. And I've always had a recollection that I had some conversation with a member of the medical staff by phone about Claire, and I -- so that's been part of my memory from the time.

THE CHAIRMAN: Just to spell it out because I don't want you to be in any doubt about this and I want you to understand the position fairly: the concern is when the overprescription of drugs arose, that you have somehow tried to distance yourself from that by suggesting that you might not have been physically on the scene but that you had done this by phone and that really, well, if Dr Stevenson made a mistake in writing it down, that's very regrettable but that's not what I told him.

A. That hasn't been my intention and I think I said it on Friday that if there was a miscommunication, I was partly responsible for that.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Thank you. I think that I did ask you

about the EEG, and I think ultimately your evidence on Friday -- somebody will correct me if I've misstated it -- was that if you had contacted the technician, you think they probably would have, because you were asking her, acceded to that, and that that would have really meant that she was working overtime effectively because that would be added to her normal list and that you didn't think that it was so -- correct me if I'm incorrect -- urgent that you would put her to that extra burden; is that the size of it?

A. I think at 2 o'clock I felt that I had significant information or adequate information to act the way I did. So I think that was why I didn't request an EEG at that time. In a sense, if you pose the question, could you give rectal diazepam in that situation, and most people would say yes, then that was a reasonable thing to do. And if you like, I was taking the next step after that, and I felt that was reasonable in the context of the presentation. As the afternoon wore on, it became more and more difficult for me to contemplate EEG because it almost inevitably meant it was going to be after 5.

Q. Yes. And that was one of the points that I wanted to pick up with you. In fact I think I started it by saying, if you're sort of looking down, you have two

things to think about, I suppose. One is: do I think that she warrants it absolutely now? Do I think she might warrant it, but by the time that presentation occurs, that might be out of hours and it might be an awful lot more complicated and difficult to actually get it done? And then if that doesn't happen, we're in the absence of that information through the whole of the night until the next day. So as you go further on down in the afternoon, do you not have to factor that timing point into your decision as to whether I should really be trying to arrange an EEG for this child?

A. Well, I think as I said on Friday, I would also be thinking if this occurred at 10 o'clock at night-time, I would have to deal with it myself irrespective --

Q. If you can avoid that, it's probably better, isn't it?

A. In an ideal world, perhaps, but I think we have to realise that 16 years later, we still do not have EEG technicians on 24/7, so there is not a consensus that EEG is absolutely crucial in this situation. We have radiographers on call because we know that CT scans are crucial and we have to have somebody to do them. But we do not, 16 years later, have EEG technicians on call regularly.

Q. Does that not mean that you give some thought as to whether you can be doing that within the normal working

day?

A. Oh yes, absolutely, yes.

Q. Yes. And without wishing to burden her, could you not have had a conversation to see what her list looked like? She might have had a cancellation.

A. I could have, but I think ... As I said, at 2 o'clock, my thinking was that this was something I could go ahead and treat and perhaps I missed the boat then, yes.

Q. That's what I meant on Friday. It becomes a difficult point because you have to figure out whether you are likely to miss the boat.

A. Yes.

Q. And just so that you have it because, in fairness to you I said I would put what Professor Neville had said about it, he says -- and some of this may encompass not just your thinking at 2 o'clock but for the afternoon in the way that you've just mentioned now. In his evidence on 1 November, he says at page 121 -- and we don't need to pull it up -- at line 17 in relation to EEG:

"It is certainly crucial if you're treating it as non-convulsive status epilepticus."

And the reason he says that's crucial is because as you, I think earlier said, it's the one way of confirming whether that is an accurate diagnosis.

A. Yes, but again I would dispute with him that it's

crucial because, as I said, if that was the case, we would have 24/7 EEG cover now.
Q. That might be a resource issue as opposed to a clinical issue.
A. I don't think so.
THE CHAIRMAN: But your point is you can treat without having an EEG --
A. Yes.
THE CHAIRMAN: -- and you do treat without having an EEG.
A. Yes.
MS ANYADIKE-DANES: Just so that we're clear about it, because I'm sure both he and Dr MacFaul will want to comment on it, you are saying it is not necessary therefore to have EEG services that can provide a quick response to children?
A. Well, as I said, we don't have 24-hour cover.
THE CHAIRMAN: I think the doctor said there's still no consensus on whether that's required and that's why you think it is not required because there is no consensus on it.
A. There isn't a consensus.
MS ANYADIKE-DANES: In some respects, I'm actually asking you for your view.
A. Well, what's happened in the interval, of course, is that we have more technicians, so I think -- I don't

know how many there are in the Royal at the moment, but there are six in Dublin. I think now you would be more inclined to push them to do a test out of hours because you know that they can take the time off.
Q. What's the benefit in being able to have a response like that, the benefit in terms of care for the child?
A. You're -- it increases your certainty about the diagnosis.
Q. Is that valuable?
A. Yes, yes.
Q. So if it was a clinical issue, if I can put it that way, from your point of view, would you have liked to have access to a service like that?
A. In an ideal world, yes. Yes.
Q. And then Professor Neville says on 1 November at page 127:
"It seems to me that if you are managing this child in a way that requires repeated doses of anticonvulsants, you should be able to make out a strong case as to why this child should be treated and another deferred."
That was in response to the suggestion that I think you had in your third witness statement, which is essentially the point that you expanded upon on Friday, which was that you didn't really want to burden the

single technician who was there. You were a fairly new consultant, it was important to form good relations and you didn't want to put her into the difficult position of deciding whether she was going to have to bump -- I think that was the expression -- one of the scheduled cases. And what Dr Neville is saying is that essentially it's your decision. If you consider that the child requires it, then it's not -- the burden is not on the technician, it's a matter for you to say that this child has this kind of priority. And I think Dr MacFaul said something similar when he was giving his evidence. So just so that we're clear then: you at 2 o'clock in the afternoon did not think that Claire's condition warranted that kind of urgent response with an EEG.
A. I felt I had sufficient information to proceed with treatment, yes.
Q. Thank you.
Then so that you have the thing in its entirety, Professor Neville comments on the absence of an EEG in his report. He does that at 232-002-006 and on to 007, where he characterises the lack of an urgent EEG as a major omission, which should have been arranged at the latest by the morning of 22 October and which should have been carried out before the administration of any

anticonvulsant medication other than the rectal diazepam.
THE CHAIRMAN: Do you think that's harsh, doctor?
A. I think if you agree in principle that you can use rectal diazepam in this situation, then I don't think you can then make a case that it's completely unreasonable to treat it otherwise, with other medication.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Well, do you think that the Children's Hospital -- it wasn't just the Children's Hospital, the Royal, as it were -- which was providing a regional service for neurology to the entirety of Northern Ireland, should have had that kind of service?
A. I think this was in a sense quite a young specialty, so it was very early in the specialty and perhaps having had more than one technician would have been obviously a benefit, but at the time there was only one technician, the other person was on maternity leave.
Q. Presumably because one was on maternity leave, there was supposed to be two?
A. 1.5 -- I think the other person was working part time.
Q. Sorry?
A. The other lady was working part-time, I think.
Q. So one full-time and one part-time --

A. Yes.
Q. -- was the full complement of --
A. Of the department, yes.
Q. And in your view as a consultant paediatric neurologist, was that adequate?
A. They were very overworked, so it wasn't ideal. But as I said, there wasn't a consensus at the time that it was required that they would work out of hours and it certainly hasn't happened since.
Q. Is that something that was discussed and raised?
A. I can't recall that. I'm sure we did discuss it, but I can't recall the outcome of that.
THE CHAIRMAN: Doctor, when you say you don't know what the position is in the Royal now? Are there six of these technicians in Dublin?
A. Yes.
THE CHAIRMAN: So you are less reluctant to call them out at night because they can then take time off during the day or take time in lieu?
A. Yes, it still doesn't happen -- I can't remember the last time that I've had a technician in after hours, but they would stay late perhaps.
THE CHAIRMAN: You say there are six. How many does it take to operate the machine?
A. Some infants -- young children require two technicians

to obtain the study.
THE CHAIRMAN: Do they work as six individuals?
A. They do.
THE CHAIRMAN: So how many machines do you have which can do the EEG tests?
A. There would be three.
THE CHAIRMAN: Okay. And are there three on at any one time or more than that?
A. They do other investigations apart from EEGs, so there would be nerve conduction studies and visual studies and continuous monitoring during surgery.
THE CHAIRMAN: And the hospital which you're in in Dublin, is that a -- obviously Dublin is much bigger than Belfast -- a regional centre as well as being a Dublin hospital?
A. It is.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: I think there's a study that was done by the British Paediatric Association in January 1989 into neurophysiological services for children in the UK. Were you aware of a study like that?
A. In 1989?
Q. 1989.
A. I don't think I would have been in 1989.
THE CHAIRMAN: Let's show the doctor the study. It might

remind him or it might not.
MS ANYADIKE-DANES: I'm pulling up the particular page that deals with the EEG. 314-015-003. If we perhaps blow that up. You see that the survey didn't actually -- it excluded Northern Ireland from there. Nonetheless, they were looking at EEG services and if you look on the page 3, you see the ideal requirements for the provision of neurophysiological services for children. It says:
"The working party, having considered all this information, has suggested the following statements identify the ideal requirements for the provision of neurophysiological services for children in Britain."
(1) is EEG, and then you see, at (d), apart from the ambulatory 24-hour EEG recordings:
"EEG and 24-hour EEG recording should be available for neonatal intensive care units and this service should be linked to a neurophysiological department with neurophysiological technician who has special responsibility for this service."
I take it we didn't have that here.
A. No.
Q. Then at (e):
"EEG video recordings, probably in a few specialised units with a special interest in epilepsy."
Was there a special interest in epilepsy in the

Children's Hospital in 1996 so far as you're aware?
A. Epilepsy would have been one of the most common things we would have dealt with, so yes.
Q. And I take it we wouldn't have complied with that?
A. No.
THE CHAIRMAN: Sorry, hold on. Complying with something -- this is an identification of what the ideal requirements are; isn't that right?
MS ANYADIKE-DANES: It's not a criticism, but we wouldn't have met that ideal.
THE CHAIRMAN: Yes, but even (e) does not [sic] talk about "EEG video recordings probably in a few specialised units"; is that a few specialised units across Britain as opposed to in each hospital?
MS ANYADIKE-DANES: Well, sorry, I had probably phrased the question badly to Dr Webb. I was trying to identify from him whether he thought that the Children's Hospital or the Royal itself formed a specialist unit for epilepsy and I thought he had said that it did.
A. Yes, but I think what they're referring to here is another step up again. What they're recommending, or at least identifying is there are sub-specialised units that deal with a child who can't be dealt with in the tertiary centre.
Q. I understand.

And the ambulatory 24-hour EEG recording, is that something where you can bring the EEG to the bed, if I can put it that way?

A. No, that refers to a cassette that you wear, which is linked to the leads in your --

Q. So the child can move around?

A. Yes.

Q. Are you able to help us with to what extent the Royal in 1996 could offer this kind of service?

A. I think it stops at 1(a).

Q. Thank you. Then perhaps if we can deal with the CT scan now. A CT scan was something, I think, in your evidence, you said that Dr Sands had asked you about.

A. That's correct.

Q. In fact, we don't need to pull it up, but you said it at witness statement 138/1, page 5. I believe he also asked if he should request a CT scan. So he had that in mind.

A. Yes.

Q. Did he tell you why he was asking about that?

A. I don't think so.

THE CHAIRMAN: What do you read into him raising the question with you?

A. I don't know whether he was requesting it because of any specific diagnosis. I think that's unlikely. I think

he was doing it as a sort of scan to rule out things.

THE CHAIRMAN: Right.

MS ANYADIKE-DANES: And what sort of things would it have ruled out?

A. I think particularly a brain haemorrhage, hydrocephalus, a tumour.

Q. And what did you tell him?

A. I felt that I would go and see the child first before we would do that and I thought, having seen Claire, that those diagnoses were very unlikely.

Q. I think Professor Neville's view is that:

"An early CT was indicated to provide evidence of intracranial pathology that would account for the deteriorating neurological state and help to decide if there was any suitable treatment. In this case, cerebral oedema could have been identified earlier and treated [as he has already identified]. Other conditions that might have been identified are inflammatory diseases, for example encephalitis."

And I think one finds that in his reports at 232-002-004, 006 and 007, particularly those two pages.

So if we see what he says about it, he says:

"The CT was to exclude a space-occupying lesion, particularly haemorrhage, and to confirm cerebral oedema. The CT scan should have been arranged, at the

latest, by the morning of the 22nd."

And so on. Then if one goes down:

"Whether it was reasonable for Dr Webb not to have seen Claire until 2 o'clock."

His view is under (d):

"If you were the gatekeeper for CT scans, then he should have been asked earlier, but otherwise that sort of delay can occur."

You were asked earlier, you were asked earlier by Dr Sands, except you wanted to examine the child first before you formed that view. Can you deal with why Professor Neville is saying that you should have had a CT scan because it would have excluded "a space-occupying lesion, particularly a haemorrhage", and it would have confirmed cerebral oedema in his view?

A. Professor Neville didn't see the child, but this presentation was not one of a space-occupying lesion or a haemorrhage. A haemorrhage occurring in this context would be a stroke, essentially, and --

Q. And what would be the difference in her presentation if she'd had that?

A. A stroke occurs very acutely, so you have a very sudden onset of symptoms over a period of seconds or a minute or two. A space-occupying lesion presenting like this would be extremely rare and unusual; it's a presentation

over a period of weeks usually.

Q. If you said the stroke would have happened very quickly if she'd had something, by that do I understand, if for example she'd fallen, bumped her head and had some sort of bleed, if that had happened, and --

A. A traumatic bleed?

Q. Yes.

A. Okay.

Q. Is that what you describe as a stroke?

A. No, no, a stroke would be a blood vessel that bursts.

Q. What if that had happened? What if she had fallen, bumped her head and had a bit of a bleed?

A. It presents like a stroke. It's a very acute onset and --

Q. And how would she appear?

A. In discomfort and usually have a weakness down one side.

Q. Did she not have a weakness down one side?

A. She had a history of a weakness down one side, or at least a history of favouring one side which was longstanding.

Q. Was it possible to tell just from her presentation whether that had developed, if I can put it that way, or was any worse?

A. She didn't have an obvious weakness down one side. She was moving all four limbs.

THE CHAIRMAN: Whether it would exclude a space-occupying lesion, do you agree that a CT scan would confirm cerebral oedema?

A. Not in the early stages, no.

MS ANYADIKE-DANES: If I just have an early part of Professor Neville's report, which is 004, at the top, he says:

"An MRI or CT could have been an urgent requirement and EEG ordered if no diagnosis emerged ... Blood tests to assist with the possibility of encephalitis or non-convulsive status epilepticus. A CT scan ought to have been carried out on the evening of 21 October. If the emergency CT scanner was in the adult hospital, then that is where the child should have gone for the test. It was likely there was only one CT scanner. Nowadays, a CT scan can be called up on a computer."

But leaving that aside, he goes on to say:

"I think that the CT scan was required urgently on the basis of the child having unexplained reduced consciousness. I would expect a paediatric registrar to discuss this patient with the consultant paediatrician and whatever the rules about who has to agree a scan, it should have been performed that night."

That's his view about the night. I suppose one can say that he certainly thought by the 22nd that she

should have been having a CT scan. Can you comment on his rationale?

A. I think it's very difficult for the experts to consider these cases when they know the outcome. It's very different when you don't know the outcome. I think to have expected someone to have sent Claire for a CT on the evening of her admission, I think that's a little harsh, really, I don't think that's what most paediatricians would do.

Q. If you leave that aside and come to the 22nd, if he thought that it was warranted on the 21st, he certainly thought it was warranted on the 22nd. So can you help with his rationale for that?

A. Well, as I said, I think it depends on your approach. Do you screen everybody or do you focus on the children that you think need the scan most? And my assessment was that this was very unlikely to be a neurosurgical emergency, it was very unlikely -- there was no history of trauma and the yield in the context of non-convulsive status in somebody who has previously epilepsy would be extremely low and the yield in an early meningoencephalitis would be extremely low. So I felt that given of the circumstances it was reasonable to wait to see how the situation developed and that if we were going to do scanning, we would do it the

following morning.

Q. That goes back to the question the chairman put to you earlier that, if you're waiting, you must have formed the view that the risk of being incorrect and what might be wrong with her be being something that was therefore not being treated and causing her harm must be quite low, otherwise you would keep all Claire's options open?

A. I thought that risk was low, yes.

Q. You did think that?

THE CHAIRMAN: Sorry, doctor, just one of your entries concerns me a little. It's at the point where you say:

"CT scan if she doesn't wake up tomorrow."

Let me find exactly where that is.

MS ANYADIKE-DANES: It's 090-022-054. The third part of the suggestion.

THE CHAIRMAN: Surely if she doesn't wake up by that stage, she's in a terrible condition?

A. She could still be in non-convulsive status. Actually, it can go on for days. My thinking then was: if we're going to do a lumbar puncture tomorrow morning, she's going to have to have a CT scan before that.

MS ANYADIKE-DANES: That's a slightly different point. In terms of the chairman's point, if you're contemplating a CT scan tomorrow if she doesn't wake up, there must be a possibility that if that's happened, actually it might

not be status epilepticus, it might have been something else, whatever that thing is, it has been developing and she has been deteriorating through the evening, through the night and into the morning of the next day.

A. And that's why I started her on treatment at 5 o'clock with acyclovir for encephalitis.

Q. Then if one looks at what Dr MacFaul said when he was giving evidence, he said that on 14 November, at page 65, he starts at line 4 with reciting what Professor Neville said, that he regards the lack of a CT scan as a major omission, and so on. In fact, I think that's me putting the points from Professor Neville to Dr MacFaul.

Then he says in answer:

"Well, I think that a scan was indicated, but exactly when, I would defer to Professor Neville, I think, on that point."

And then if one pulls up page 66 as well, he goes over the page to say why he thinks it was important. Line 251:

"As far as should it have been done, the answer is yes. And the reason why is that you could not, at that stage, know why Claire had a brain disease. And amongst the conditions that could have been present would have been a brain tumour of long-standing, which had just

become increased in size. There could have been even a small bleed because she might have had a head injury that somebody hadn't noticed, if she'd tripped over. There could even have been even a brain abscess, exceedingly rare, but it does happen without there being a fever. In other words, there could have been a structural lesion within the brain responsible for her brain illness and she did have focal neurological signs. In other words, a difference between the sides, which was reported on admission. And all of these features would indicate that a scan was necessary to either include or exclude those conditions because one of them -- for example, an abscess -- or a tumour, an another, would require a neurosurgical intervention."

So you have these things in the way that you were explaining them as rather low down on the register of possibilities.

A. I've just missed them essentially, because I think -- I don't agree any of those diagnoses were likely, really, and I don't accept she had new neurological signs. I think she had a history of favouring one side of the body. So that --

THE CHAIRMAN: Do you say then that that rationale, which is put forward by Dr MacFaul, is really something that doesn't go against you because Claire didn't have

a tumour or an abscess or any of these other conditions?

A. I'm saying that --

THE CHAIRMAN: Even in retrospect, you're --

A. In retrospect it's easy to say, but even at the time I did not feel that Claire had a tumour. I think that was extremely unlikely given her presentation. I didn't think that she had a brain haemorrhage or trauma to the brain because there was no history of that. An abscess in this context would be -- without fever would be unheard of, almost.

MR FORTUNE: Sir, forgive me for interrupting. It may be my fault. Have we heard mention previously of a possible plan for a lumbar puncture to be carried out the following day? And if so, who was going to carry it out? A paediatrician or a neurosurgeon or somebody else?

A. Lumbar punctures were usually carried out by the paediatric team, so the registrar usually.

MS ANYADIKE-DANES: Sorry, I misheard that.

A. Lumbar punctures in children were usually carried out by the paediatric team, so it would be either the registrar or the SHO, depending --

Q. Yes. When you were answering the chairman earlier about the CT scan, you said if you were going to do a lumbar puncture, then you would do a CT scan; is that correct?

In the same way as you put "CT tomorrow if she doesn't wake up", would you not have directed that if she doesn't wake up, one of the things we should be carrying out is a lumbar puncture?

A. That's correct.

Q. Because that would have been part of your plan in those circumstances.

A. Are you asking me should I have written that in the notes?

Q. Yes.

A. Again, I think it's implicit almost in the statement that I made.

Q. Sorry, in this entry in the notes?

A. Yes.

Q. Why is that? Because you might have been doing the CT scan to look at the sorts of things that Professor Neville and Dr MacFaul have talked about independent of an issue which would be assisted by a lumbar puncture.

A. That's correct, but I think given that we had discussed the possibility of encephalitis and meningoencephalitis, that it would be sufficiently widely known that you did a CT scan in this context before doing a lumbar puncture and that Dr Sands would have known that.

MR GREEN: Sir, before we move on and away from this entry,

"CT tomorrow if she doesn't wake up", could we clarify what Dr Webb means by if she doesn't wake up? If memory serves me right, at page 73 of the [draft] transcript his evidence a few minutes ago was that at 2 o'clock she sat up and was interacting. And I just want to see if I've missed something about the way that note should be read because, on the face of it, it seems starkly inconsistent about what is being said on oath today.

MR SEPHTON: The witness said, as I understand it, that that was his position at 2 o'clock and we're now reading a note at 5 o'clock.

THE CHAIRMAN: No, this note is at 2 o'clock.

MR GREEN: Absolutely.

THE CHAIRMAN: But it's projecting a possible course of action. This is a suggestion by Dr Webb that if Claire doesn't wake up -- well, do we interpret that, doctor, to mean if she doesn't wake up tomorrow? Because at this stage if she's sitting up, she is at least to some extent awake at 1.30, 2 o'clock.

A. Yes. What I'm suggesting is that if she doesn't improve, if she doesn't come back to herself --

MS ANYADIKE-DANES: What you said on Friday was if she didn't come back to how she normally was, if I can put it that way --

MR GREEN: At page 73 of today's [draft] transcript, the

contemporaneous note that the stenographer is doing, it is that she sat up and was interacting.

THE CHAIRMAN: Yes, sorry, but Mr Green, I understand that Dr Webb found Claire to be doing that, but she was still clearly unwell. The extent to which she was unwell is a matter of some debate, but she was able to do that at 1.30, 2 o'clock on the Tuesday lunchtime. Is your point that she was still at that reduced level of activity and consciousness the following morning, that the CT scan should be done?

A. Yes.

THE CHAIRMAN: It's not if she was completely unconscious?

A. No, no.

MS ANYADIKE-DANES: Maybe you have just answered the chairman. How recovered would she have to be for you to no longer think that a CT scan was warranted on the Glasgow Coma Scale?

A. I think if she had come back to normal, then it wouldn't have been because I think that's ...

Q. If we just pull up this record of the Glasgow Coma Scale, 310-011-001. So that is all her records there, broken down in that way. And I think that that red one at 2 pm is one that you entered. But in any event, she never recovers back to where you have her when you're examining her at 2 o'clock. In fact, irrespective of

the points that are made as to how precise these are, the trends are pretty low and never getting back to where you had her at 2 o'clock, if I can put it that way, apart from 8 o'clock.

Then from 9 pm, it's fairly consistently at that level of 6 or 7, as the case may be. So if that's the case then, so if you had thought that a CT scan tomorrow if she doesn't wake up, or at least show some signs of coming back to herself, if I can put it that way, we're coming to that perhaps when we go to 5 o'clock. But if you see that's a bit of a trend, notwithstanding the anticonvulsant therapy that you have prescribed for her, there is absolutely no sign -- and she has had quite a bit of anticonvulsant they were -- of her getting anywhere nearby the time you see her at 5 o'clock where she was at 1 o'clock when the first readings were taken.

So is that the sort of thing which would have caused you to revisit your initial view as to whether a CT scan would have been appropriate?

A. At the time, no. And I think my view over the three hours that I saw Claire didn't change very much, really. In the interval, she had had a seizure, which in a sense was supporting my suggestion that that was the basis of her problem.

Q. I understand. Just in ease of Mr Green -- I think it

was Mr Fortune actually -- about the lumbar puncture, that appears at witness statement 138/1, and I think at pages 84 and 85. I think it starts at (e):

"State whether you took any steps to test your diagnosis of meningitis. If so, explain the action you took. I recommended viral cultures of stool, urine and blood and a throat swab to look for possible viral agents that might be causing meningoencephalitis. I did not request a lumbar puncture, but would have planned this for the following day if Claire had not improved, and after a CT scan, and if there were still concerns about her level of awareness."

So I think that is your reference to lumbar puncture.

MR FORTUNE: My concern was that the entry in the note is silent as to any lumbar puncture. So how was anyone else, in particular a paediatrician, to know what was in Dr Webb's mind?

MS ANYADIKE-DANES: Possibly where that's going is the next day would be a new team, so if it's the new paediatric team who are going to carry that out, then they would need to know that that's what's being indicated on the plan that you're formulating.

A. I don't think there would have been a new team.

THE CHAIRMAN: A new consultant maybe, but not a new team.

MS ANYADIKE-DANES: New consultant, sorry.

A. I think my understanding would have been that Claire would have remained under Dr Steen's care and therefore Dr Sands and Dr Stevenson would still be involved.

Q. Yes, but it wouldn't be Dr Steen as the consultant for the next day.

THE CHAIRMAN: She's still the named consultant.

A. It would be -- the on-call piece is just to cover the evening.

MS ANYADIKE-DANES: Oh sorry. Actually, maybe you can help us with that. If the named consultant doesn't have a rota for that day, how do you manage with consultant cover?

A. If the named consultant doesn't ...?

THE CHAIRMAN: In other words, Dr Steen, as we understand it, was not scheduled to be in the Children's Hospital on the Wednesday, probably because she was outside doing community work. In her absence on Wednesday, does she still retain responsibility as the consultant in charge of Claire despite the fact that she's not supposed to be in the hospital at all that day?

A. That's my understanding, unless she deputises it -- ask someone to deputise.

THE CHAIRMAN: Dr Steen's arrangement was that she did two sessions in the Children's Hospital -- I think Tuesday

morning and perhaps Friday, maybe Thursday. It's not clear. But those were the only two sessions in which she's there. So if a child came in under her care on, say, Monday night/Tuesday morning, as Claire did, then she remains under Claire for the rest of the week --

A. That's my understanding.

THE CHAIRMAN: -- even though Dr Steen isn't expected to be there for more than a half day.

A. That's my understanding.

THE CHAIRMAN: How is that actually managed in practice?

A. Presumably it's managed through her contact with the registrar. I can't speak for Dr Steen. I think you'd have to ask her yourself.

THE CHAIRMAN: Okay, we can pick that up. We have more --

MR FORTUNE: [Inaudible: no microphone] sir, more important for a note to be made of an intended plan.

THE CHAIRMAN: Yes, it does.

MS ANYADIKE-DANES: You might be able to help us with this point, though, Dr Webb.

When Dr Steen was giving evidence she described the paediatric service as a "consultant-led service", and the way in which she described it -- somebody correct me if I'm wrong me here -- meant that consultants weren't sort of on the ward in that way and that they liaised with the ward, liaised with their registrars and so

forth. Did that extend to the neurological unit as well? Was that a consultant-led service?

A. Yes.

Q. So if you've got a consultant-led service, which means that the consultants aren't based in the ward, if I can put it that way, then does that not mean that your forms of communication, whether they be by telephoning each other if you are treating each other's patients, if I can put it that way, or by entry in the notes, take on quite a bit of importance because, in some respects, that might be a substitute for the consultant actually looking at the child as they might do if they were based on the ward?

A. I think the most important contact was with the registrar.

Q. Yes.

A. So that --

Q. But do the notes not become particularly important?

A. The notes are important, yes.

Q. I appreciate notes are always important, but do they not become particularly important when the consultants might be phoning in and might be wanting to have notes read to them because they're not there present on the ward all the time, and it may not be the registrar that they were able to contact, who might be off doing other things?

So somebody's got to be able to read to them what's happening from the notes so they can understand and make decisions about the patient's care.

A. Yes, I think that's fair.

Q. So the notes become, in that circumstance, really quite important?

A. I think most of the time the consultant would contact the registrar and have a consultation with the registrar, particularly about cases that were difficult or required more thought.

Q. Thank you. That actually goes a little bit into consultant responsibility, which was an issue that I had passed over, you may recall, on Friday, because that would have assisted. You, I think, said in your witness statement at 138/1, page 4:

"I was consulted to provide [and I am paraphrasing a little bit here] neurological advice on the management of Claire. My role was to assess Claire with history and clinical examination, provide probable diagnoses and offer a management strategy to her paediatric team."

And you then you go on at page 6 to say this:

"Dr Sands asked me to provide a specialist opinion on Claire. He didn't ask me or my team to take over Claire's care, management and treatment."

Firstly, can I ask what it means to offer

a management strategy? What does that mean exactly?

A. To provide advice on what's the most appropriate treatment.

Q. Is it prescriptive? Is it that you're saying this is actually what I think you should be doing?

A. Sometimes it is.

Q. And was it in Claire's case?

A. I think I gave fairly prescriptive advice --

Q. Is it just --

A. -- on both occasions.

Q. -- when you refer to it then as suggestions and so forth, that's just a way of phrasing? What you really mean is: this is what I think you should be doing?

A. Yes.

Q. Okay. Did you ever consider at any point in the afternoon that maybe, actually, it would be a good idea and certainly more efficient if you did take over her care?

A. No, I didn't, because I ... My understanding was that I was to give advice and usually you would be asked to take over care rather than assuming it.

Q. No, but --

A. I suppose the other issue is that I'm not sure whether my registrar was there at the time, so we may have been down in our own team.

Q. So it might not have been a straightforward thing for you to do from your own resource point of view?
A. If we didn't have the registrar, it would have been a foolish thing to do, actually.
Q. Dr Sands thought she had a serious neurological problem. All the time that you were offering advice on her, you only seem -- well, you're the neurologist so you would think only of the neurology problems. But any of the things you identified all seemed to point towards some sort of neurological condition or outcome, even the tummy bug that might have started it all. By the time you're there offering advice in Claire, from your point of view, we've gone way past her just having a tummy bug. That has had a knock-on effect and we're into neurological territory. And you had never seen anything in relation to Claire's presentation that wasn't something to do with her neurological state; isn't that right?
A. Um ... I think her issues were --
Q. Yes.
A. -- neurological, yes.
Q. Leaving aside your resource point -- and we need to check whether your registrar was there -- would it not have made more sense to have actually brought Claire on to the neurological ward?

A. That afternoon, probably not, because she was known to the staff and the nursing staff on the ward that she was on. I think the following day, if there were still issues and we were having difficulty controlling seizures or there were some other issues, then perhaps we would have. But on that afternoon, she'd been admitted on that ward, the nursing staff knew her, the medical team knew her. I would not have seen an indication to transfer her.
Q. If she had moved on to a neurological ward, is that St Paul's ward?
A. Mm.
Q. Yes. If she had moved on to that ward, then would the nurses treating her have had any better -- I'm just trying to see whether you have specialist nurses with any better experience or expertise in neurological issues or are they general nurses that have a rotation throughout the Children's Hospital?
A. We had one specialist nurse who worked very much as a liaison person, largely with families with epilepsy. My understanding was that the nursing staff on the ward were generally general paediatric nurses, but certainly the more senior members of the staff probably had experience from Paul Ward over a period of time so they would have acquired that experience. But in general

terms the issues that we were dealing with here were ones that any general paediatric nursing person could deal with, really.
Q. We'll see it as we go further on down the afternoon, but the inquiry's nursing expert, Ms Ramsay, certainly from the nurses' point of view, formed the view that the extent to which the therapy being administered to Claire -- she, in that position, would have been asking the question as to whether this child shouldn't be in paediatric intensive care and not on a general ward. This is one step away from that; this is putting her in a setting where the people are likely to be more experienced about her presentation and the medication that's being provided and so on.
A. I think if the nursing staff had come to me and said they had an issue with her being on the ward, I certainly would have considered that, but that representation was never made to me.
Q. Is that realistic though, that a nurse would --
A. Absolutely.
MR FORTUNE: There seems to be some confusion in my learned friend's mind as to whether there is a significant difference between the general ward where Claire was and neurological ward where she might have been and, certainly, PICU, where arguably she should have been at

some time. Perhaps Dr Webb ought to explain what the differences are, if any, between a paediatric ward and a neurological ward. We're all aware of --
THE CHAIRMAN: I'm not sure Ms Anyadike-Danes was confused about the difference between a neurological ward and a PICU ward. I'm not sure that that suggestion was warranted. Let me ask it in this way: what would it take for you to suggest that a child who is on Allen Ward should be moved on to the neurological ward?
A. If we were asked to take over the care.
THE CHAIRMAN: Right. So if you had been, and this comes back to your point that you don't assume care, the normal practice is that if the consultant paediatrician suggests that this is a child who might be more appropriately or better dealt with on a neurological ward --
A. Absolutely.
THE CHAIRMAN: -- you will consider that request and probably accede to it, if you can --
A. If there is a bed available, yes.
THE CHAIRMAN: Okay. And in the neurological ward then, because you had begun to take the lead in Claire's care without formally taking it over, you were prescribing the drugs and your return visits or visit during the afternoon showed your level of commitment to Claire.

That would be one reason perhaps for moving her on to the neurological ward, but your point is you weren't asked to so you don't assume something you're not asked to do.

A. No, I wouldn't have, no.

THE CHAIRMAN: Then the next step, whether she stays on Allen Ward or goes to the neurological ward, there's a difference between either of those two on the one hand and PICU on the other?

A. Yes.

THE CHAIRMAN: And a move to PICU depends on a view being taken about the seriousness of her condition, does it?

A. It does, but at that time almost all of the children who would have gone to PICU would have required ventilation.

THE CHAIRMAN: Right. The other possibility or option which was discussed was that there might have been some engagement with the consultants in PICU at some point during Tuesday afternoon to alert them to the fact that this was a girl for whom significant drugs were being prescribed, which is in itself an indication of her condition, and to at least sound ideas off them?

A. I think that's correct, and I did acknowledge in one of my statements that I felt that I should have made contact with the intensive care staff at 5 o'clock.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Apart from the convenience, whether you actually came to the ward twice or three times, you certainly seem to have made contact with it at least three times, and given that you're also managing your own patients, that's quite a level of care and commitment that you're providing to a patient that's not yours. The chairman's point is that if things had worked that way, it might have been easier to have provided her with that level of oversight, since it's your therapy, your plan, that people are implementing, if she was on your ward, if I can put it that way. I think your answer was ultimately that's not a suggestion that would be initiated by you and, if Dr Steen had asked you that, you might have thought about that.

A. Yes, if I had been requested, certainly.

Q. Have you ever, in whatever the circumstances might be, suggested that maybe a child's needs could be better addressed on the neurological ward? Have you ever volunteered that suggestion?

A. Yes, I'm sure there have been times when I've discussed it with the consultant and come to that decision.

Q. The slight difficulty about it is that you don't actually have any contact with Dr Steen at all.

A. No.

Q. Did you actually know where she was in the afternoon?

A. I don't think I did.

Q. No. But you see no evidence of her, and I think you said at some point on Friday you got the impression that she wasn't about in the morning because Dr Sands had said he had carried out the ward round. So for all you knew, that might be one of the times when she's not scheduled or rostered to be in the hospital.

A. Possibly.

Q. That afternoon, I mean.

A. Mm-hm. The afternoon, yes.

Q. Did it occur to you that, given the amount of involvement you were having in Claire's care, you'd met two parts of her family -- by 5 o'clock, you'd seen the mother, but at 2 o'clock you'd certainly seen the grandparents -- that you might try to see where Dr Steen is, have a discussion about Claire, as to whether, apart from any other thing, you might bring her on to the neurological ward?

A. No, I didn't make contact with Dr Steen. I think --

Q. No, sorry, Dr Webb, I know you didn't; I'm just wondering if it occurred to you that you might do that.

A. No, I don't think it did.

Q. It didn't occur to you?

A. No. The following day, as I said, if we were in the

situation, I think I would have almost certainly pursued that.

Q. How well did you know Dr Steen at that stage?

A. Well, we had been colleagues for a year.

Q. So might it not just have been a normal thing to say, "Look, I've actually had quite a bit of involvement with your patient this afternoon. I'm not sure how much you know about what's happening, but this is how I see it"? Would that not have been a normal thing to do?

A. No, it wasn't routinely, actually. Most of the contact and communication was done through the team, and I suppose the advantage of that is that the registrar then knew what both consultants were thinking.

THE CHAIRMAN: Sorry, I can understand that generally, doctor. You said to me a few moments ago, as you said in one of your statements, that you regret now that you didn't make contact with PICU staff at 5 pm, and that reflects the extent to which Claire was unwell. But if it would have been better for you to contact PICU staff, then surely that in itself is a strong indication that Dr Steen is somebody you should have spoken to. If you're going to go to contact a consultant in PICU, you would at least want some discussion with Dr Steen about what's going on and why you're going to PICU, wouldn't you?

A. I probably would have recommended it to Dr Sands that a contact be made with PICU. I could have made the contact myself, but I probably would have recommended it to him so at least he was in the system.

MS ANYADIKE-DANES: The difficulty is you don't actually see Dr Sands again, if I'm correct. He wasn't there when you came at 2 because, by that time, it would appear he has gone to do a clinic with Dr Hill. It's not clear that he is there at 5 pm when you come again, although he come a little bit after that, I think, because he's recorded as having administered medication at 5.15, I think. But there's no record of him --

A. I think we did have contact at 5 o'clock.

Q. We'll check that. We'll come to that when we come to 5 o'clock. It's probably easier to keep it in that way.

Is there any possibility that by you coming to see and treat Claire in the way that you did led to any kind of confusion as to who actually was the lead in Claire's case? I know that you say that it could not be you because, if you were the lead in her case, then you would have taken over the management of her care and that's something that was a definite step and it would be recorded somewhere. But from the point of view of the others seeing your presence with no obvious presence from Dr Steen, was it at all possible that people looked

to you as providing the lead in her care?

A. I don't think that's actually likely. It was a short period of time. I don't believe the nursing staff thought that I had taken over care and I don't believe the medical staff had either, actually, because I would have indicated to them that I was taking over care.

Q. Well, I don't mean so much in a formal way taking over her care, but providing the lead in the direction of her care so that, if you like, they were now going to be looking to you as to the plan, how it should be modified, how it should be implemented and all that sort of thing, so you were now performing that role.

A. No, I don't accept that. It was clear to them that I was providing advice and that the person in charge was the general paediatrician.

THE CHAIRMAN: Okay. We'll take a break there, doctor, and start again at 2 o'clock. Thank you.

(1.12 pm)

(The Short Adjournment)

(2.00 pm)

MS ANYADIKE-DANES: I was asking you about the consultant responsibility and your view was that you didn't think that your attendance and the level of involvement in Claire could have generated any confusion about who the more junior members of the team, if I can put it that

way, or the nurses, for that matter, should be directing their queries to or communicating with. In terms of Claire's condition, though, if she had deteriorated or had had some sort of adverse reaction to any of the medication that you had suggested was administered, you'd have expected them to contact you; is that right?

A. Yes.

THE CHAIRMAN: Sorry, would you have expected them to contact you directly? We're talking about the nurses. If the nurses had spotted something, would you have still expected them to speak to Dr Sands or Dr Stewart and Dr Stevenson and for them to contact you?

A. Yes, it would normally be that the nurses would go to the doctors first.

MS ANYADIKE-DANES: Do you ever expect a nurse to contact you directly?

A. I wouldn't have that expectation, but it occasionally happens.

Q. So primarily, if something had not gone in the way that it was envisaged it might go, you'd have expected to hear that from some member of the team, typically the junior paediatricians or --

A. Yes.

Q. -- in some odd circumstances perhaps the nurse?

A. Yes.

Q. And that would be to you and not to Dr Steen, so you wouldn't expect them to be telling Dr Steen and then Dr Steen to be contacting you?

A. It could happen that way, but I would expect that it could happen directly to me too through the team.

Q. What would be your greater expectation, directly to you?

A. Yes, possibly.

THE CHAIRMAN: Sorry, that depends on whether Dr Steen is available or not. If she's not available, then you will expect one of the junior doctors to come to you.

A. This is on Tuesday evening, Tuesday afternoon?

THE CHAIRMAN: Yes.

A. Yes.

THE CHAIRMAN: If she is available, you would expect them to go to Dr Steen and somebody from the paediatric team to contact you?

A. I think if it was Tuesday afternoon and it was directly related to the medication that I'd started, I think they may have come directly to me at that point.

THE CHAIRMAN: That's also the point at which Dr Steen seems to have been elsewhere, doing other duties. You wouldn't expect them to go in a very circuitous route if it's going to end up with you anyway?

A. That's reasonable, yes.

MS ANYADIKE-DANES: So that we're clear: you were providing

expert guidance on her neurological presentation and how that might best be addressed. And I think earlier, before lunch, you were saying that actually in terms of all that you saw, it all ended up as something neurological, really.

A. Yes, there was a paediatric piece to it in that she had a gastrointestinal illness and she required fluids --

Q. But by the time you got there at 2 o'clock and for the rest of that afternoon, essentially what was happening was all neurological so far as you're concerned.

A. So far as I was concerned, but there was another piece to it, I suppose.

Q. So that we're clear, the other piece was what?

A. She had presented with vomiting and a viral illness and she required fluids because she wasn't drinking or eating.

Q. And apart from the fluid aspect of it, the rest of it was neurological? Is that right, is that fair?

A. I think that's fair, yes.

Q. So even if Dr Steen had been about -- not ward based, but about -- if something arose out of either the medication or her neurological presentation and so on, would you expect to be contacted first or would you expect Dr Steen to be contacted?

A. I can't recall my expectation at the time, but I think

it's likely that I would have been contacted first and I think I was for the seizure, for example.

Q. In the way that you have explained matters -- maybe this is unfair, but this was my understanding of it -- you have put rather a lot of responsibility on the registrar because in the system where the consultants aren't ward-based, then it's the registrar, if you like, who's making certain decisions, seeing whether things have become sufficiently serious or significant that more senior people have to be approached; is that what you intended to convey?

A. Sorry, could you repeat that last bit?

Q. I said quite a bit of emphasis seems to be put on the position of the registrar, who is ward-based -- if the consultant isn't, the registrar is -- and I think in the way you were describing it before lunch, that's the person really who is there to take an experienced eye and decide whether things are sufficiently serious or changing in certain directions that assistance, more senior assistance, is required?

A. Yes.

Q. So it's quite important that the registrar understands what's going on, particularly if what's going on is being directed by a specialist --

A. Yes.

Q. -- would that be fair? Having had your discussion with Dr Sands in the morning then, did you feel that it would be appropriate for you to have a direct discussion with Dr Sands to update him on what you had found at 2 o'clock and just generally how you saw things?

A. Yes. I would have had an expectation that there would have been contact between the SHOs and Dr Sands in his absence. And I'm fairly confident that I did have another discussion with Dr Sands at some point in the afternoon. I think it was at 5 o'clock.

Q. But before you get to 5 o'clock, and I see what you say, that you would expect that the SHOs who had attended you, say at 2 o'clock, to relay to Dr Sands, but then it all gets a bit sort of one remove, if you like, and that's why I asked you whether you thought it would be preferable to have a direct discussion with the registrar, Dr Sands, rather than to have your views filtered through the understanding of the SHO.

A. Well, I may have had an expectation that I would meet him again later in the afternoon.

Q. Yes. Did you have any expectation of how soon you would want to do that really? In the absence of the consultant, he's managing the general paediatric side of things, if I can put it that way --

A. Mm-hm.

Q. -- and that team has the overall care of Claire, as I understand your characterisation of it.

A. Yes.

Q. So it's quite important that he understands how what you're saying fits into the general paediatrician's role. So how quickly after you'd seen Claire at 2 pm would you have liked to be having a conversation with Dr Sands?

A. I think I was getting adequate feedback from the other members of the team, through my contact with them, and while I didn't have direct contact with Dr Sands immediately after I'd started treatment, I think I did have contact with him later in the afternoon, and I certainly would have expected to have contact with him. Clearly at the time I felt that was adequate.

Q. You have put that at 5 o'clock or thereabouts when you think he might have been there, so that's three hours' time. But of course, you don't know it's going to be 5 o'clock when you have finished your consultation with Claire. That's why I'm asking you when, in the general scheme of things, would you liked to have been discussing matters with him?

A. I think it's hard to predict that in advance.

Q. No, I don't mean that you should have predicted it; when you would have liked to for the good order of Claire's

management? When would you have liked to?
THE CHAIRMAN: After you saw Claire at about 1.30 or 2 pm and you prescribed the drugs, you didn't then speak to Dr Sands?
A. Not immediately, I don't think, no.
THE CHAIRMAN: Do you think it was important or relevant to speak to him at that point?
A. I think there were sufficient other members of the team present to feed back to me if there were issues.
I would have had an expectation that I would have discussed with Dr Sands later in the afternoon.
THE CHAIRMAN: Then you were involved again at some point after 3 o'clock and, whether you saw Claire at that point or not, you were engaged in a fairly significant fresh prescription. Would that have increased your desire to speak to Dr Sands?
A. It may have done. I can't recall whether I was told at the time that he may not have been available or -- I don't know.
THE CHAIRMAN: We're coming towards 5 o'clock and I think you did speak to him around 5.
A. I'm pretty certain we had a second conversation and it's most likely to have been around 5 o'clock.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Thank you. Just before the chairman

started asking you some questions, you said you felt you were having -- I don't know whether you said fairly good feedback, but in any event you certainly referred to you felt you were having feedback from the junior paediatricians.
A. I certainly was aware that they were there and if there were issues that I would get feedback.
Q. That's slightly different. What I'm wanting to know is what do you mean by you were getting feedback from them?
A. I'm pretty confident that I was told about the seizure and we had discussions about the medication.
Q. Yes. Does that all happen on one occasion?
A. I can't recall.
Q. Okay.
THE CHAIRMAN: Let's move on.
MS ANYADIKE-DANES: In the same way as I've asked you whether you would have liked to have had a discussion with the registrar and explained your position since he had initially brought you in, if I can put it that way, because he wanted your assistance or your assistance for Claire, leaving aside who is the person who should have contacted, would you have liked to have had a discussion with the consultant paediatrician about Claire? So a consultant-to-consultant discussion about the most likely differential diagnoses and the appropriate

treatment.
A. Would I have liked?
Q. Yes.
A. I can't answer that because I don't know what I was thinking at the time. But I felt I had a consultation with a good registrar, who I expected was in contact with his consultant. So I felt that there were lines of communication open.
Q. Would it have been helpful to you to have had an experienced consultant paediatrician, if you like, be able, not exactly debate, but at least discuss with you and perhaps raise other possibilities, maybe even challenge the basis of some of your assumptions? Would that have been helpful in the interests of Claire's management?
A. It might have been, yes.
Q. It might have been?
A. Yes.
Q. I want to ask you something a little more about the drug administration itself. Firstly, the question of double-checking. We don't need to pull it up, but in your first witness statement at 138/1 at page 97, you said you thought it was normal practice for the dose to be checked with two people at the time of administration and this was usually with the attending nurse. That was

how you thought about it.
Then you go on to say that you personally wouldn't get yourself involved in checking calculations, but you thought anyway that the practice was that you would have two people carrying out that checking.
In 1994, the Children's Hospital published the third edition of the paediatric prescriber that I showed earlier, and they talk about what has to happen in some respects, for example if there's a cancellation of a prescription and so on. But it doesn't seem to refer anywhere to two people being required to check at the time of administration. Can you help with where you got that from as a normal practice or how you came to have that understanding?
A. That was my experience in working in other hospitals.
Q. In the Royal?
A. No, no, in other hospitals in Ireland and the UK and Canada. It was pretty standard practice that if you were giving an intravenous administration, that you would check the dose and the drug with somebody else.
Q. By the time Claire's admitted and you are treating her, you have been a consultant at the Royal for about 14 months; I think you accepted that on Friday. During that time, had you observed that as a practice in the Children's Hospital?

A. I can't recall that because I wouldn't regularly be around when intravenous administrations were being given, but that was my understanding that there would be --
Q. Had anybody discussed it with you or drawn to your attention that this is what happens?
A. No. It was so much part of normal practice that I wouldn't have gone enquiring even.
THE CHAIRMAN: Sorry, we've heard before about double-checking in slightly different circumstances, whether it was two nurses administering the drug or whether it was a doctor. When you say it was your experience in other hospitals that there would be double-checking with another person, is that doctor and doctor or is that nurse and nurse?
A. It would usually be nurse and nurse or doctor and nurse.
THE CHAIRMAN: If your experience previously was that even if a doctor was administering the intravenous drug, there would be a check --
A. Yes. Certainly, as a junior doctor myself, that would have been my practice.
MS ANYADIKE-DANES: And if that's checked is there a place where that gets signed off, that that has been checked?
A. Again, I think it was so much part of routine practice that you wouldn't sign the drug being given unless you'd

done that.
Q. And this is something, in the way that you're describing it now, would be part of the basic training that the SHOs and, for that matter even, registrars coming up would understand, that that is what had to happen?
A. That was the training that I got, yes.
Q. Then if I can just go directly to the prescriptions. The phenytoin, for example. You prescribed that and you say in your witness statement, 138/1 at page 24, that if it was effective, it might be associated with an improvement in her conscious level. I think you said on Friday that might have happened rather quickly if that was going to happen.
A. 15 minutes, perhaps.
Q. Professor Neville's view -- the reference is 232-002-009 -- he says that wasn't appropriate without proof of EEG and that the proof from the EEG that non-convulsive status epilepticus was present. Was there any evidence that you could see that the phenytoin had been effective?
A. No.
Q. And if it's not effective, how does that factor into your consideration as to what's happening with her?
A. For children who are in non-convulsive status -- and indeed convulsive status -- there are a percentage of

children who don't respond to the medications. So what you do is you move on to the next line of treatment.
Q. Is it possible that she didn't show any improvement because she didn't actually have non-convulsive status epilepticus?
A. I think that's unlikely, actually. I think there was clearly something causing her problem when she came into hospital. She seemed to respond to diazepam and, for a period on Tuesday evening, she appeared to respond to midazolam. So in retrospect, I think that there is evidence that she did have some response to medication, but not as much as I would have liked.
Q. I think you've said before that you're not in a position to directly evaluate the quality of her response to the diazepam. It's not recorded anywhere and it's down to what the nurses told you, which --
A. I did review her at 5 o'clock.
Q. We're going to come to what you saw when you reviewed her at 5 o'clock. In any event it's unlikely, but it's possible, that her failure to respond to the phenytoin was because the original diagnosis as to what is the cause of her presentation was not non-convulsive status epilepticus?
A. It's possible.
Q. Yes. But in your view, it was more likely that it's

just she's in that category of patient that doesn't respond in that way.
A. Doesn't respond.
Q. Is that quite a small proportion of patients that don't respond in that way?
A. There are about 20 per cent who don't respond to the medication.
Q. And the condition itself is not terribly common?
A. That's correct, yes.
Q. I think you've also said that it was routine practice to have a cardiac monitor in situ; is that right? I think you said that in 138/1, page 23.
A. When you're administering phenytoin, that's correct.
Q. Did you prescribe that or direct that it should be in place?
A. I can't recall that, but it would have been standard practice and phenytoin is a drug that's been around for a long time.
Q. It's referred to later on when they give her the subsequent dose of it --
A. Evening dose, yes.
Q. There's a note from the nurse that that's in place. But it's not referred to in relation to this administration of it. You say that you wouldn't need to direct that because they should just know that.

A. Well, I would expect that because it's a very well-known drug. And I think it's likely that it would have been if it was -- if she was monitored later in the evening, it's most likely she was monitored with the infusion.
Q. Is it possible it didn't happen because the SHO is really quite junior, who would have been responsible at that stage for administering the medication, and didn't appreciate that that's what was required? Is that possible?
A. It's possible, but I think the nursing staff were quite experienced and I would have expected that they would have monitored, and if the SHO didn't know, it certainly was available to him.
Q. Were you aware of how experienced or inexperienced Dr Stevenson was?
A. No.
Q. And when you say that the nursing staff were quite experienced, is there anything in particular that you base that on?
A. Just my observation of the nursing staff and --
Q. It seems the ward sister wasn't there that day, so they were missing -- who would normally be a very experienced person and that, for whatever reason, actually quite a junior -- in terms of her qualifications -- nurse accompanied Dr Sands on the ward round at 11 o'clock.

But did you know these nurses in particular to be able to talk about their expertise?
A. I didn't know them individually, no.
Q. You sort of assumed that nurses there are likely to know these sorts of things?
A. Well, this was a general paediatric ward in a tertiary hospital with a good reputation and I think I would have expected that there would be some knowledge of using a drug like phenytoin in that context.
Q. Then if we go to the midazolam, we have heard when that was actually administered, but if I can ask you a little bit about it. Professor Neville says that the giving of midazolam was inappropriate because -- this is a continuing concern of his in terms of no further confirmation having been obtained of your differential diagnosis of non-convulsive status epilepticus. He said that the giving of midazolam was inappropriate because:
"There was no confirmation by EEG of the diagnosis, and [he believes] that midazolam has a sedative effect and could have caused or contributed to a fall in Claire's GCS with the effect of the drug lasting at least one or two hours."
That's his view -- and we don't need to pull it up -- at 232-002-016.
If I ask you just about the fact that this is now

the third drug and you are prescribing that -- and I think on Friday you'd said it was quite a powerful drug -- still without having got any confirmation that this is in fact the condition that she has. Can you comment?
A. We've discussed the issues around the EEG and I think --
Q. Sorry, no. I framed that question badly for you, I apologise. What I mean to say is you're now on to your third level of anticonvulsant therapy and your original answer, I think to the EEG, to the chairman, was that not seeking an EEG at that stage reflected in a way your confidence or your belief that you had accurately identified the source of her problem, if I can put it that way.
A. Okay.
Q. And now you're on to the third round. Are you still that confident that you've accurately identified the source of her problem?
A. Well, you'll recall that she had a seizure in between.
Q. Yes.
A. And that will have, in many ways, supported my suggestion that this was related to seizure activity, that that was the underlying issue for her.
Q. At that stage, therefore, are you now thinking that she's got both convulsive status epilepticus as well as

non-convulsive --
A. No, I didn't think she had convulsive status, but she'd had a convulsion. Convulsive status involves convulsing for 30 minutes. So I thought she'd had a convulsion and that would not be uncommon in the context of her having non-convulsive status.
Q. So you can have a convulsion even though your condition is non-convulsive?
A. You can have convulsions during your non-convulsive status, if you like.
Q. What causes that?
A. I don't think we know.
Q. Does it mean that your condition is a little bit more serious because -- I think you had described actual convulsions -- convulsions that you could see -- as indicating something about the electric activity in the brain, and if they had now reached a level which produced a physical manifestation, how are you to interpret that in terms of her condition?
A. I wouldn't interpret that things were getting worse, but I would interpret it as this is a situation where it may get worse and I think further treatment is required.
Q. Could it be evidence that things are getting worse?
A. No, not necessarily. Could it be? Yes, it could, of course.

Q. Thank you. Could it also, if one had all the options ranged out, mean that there was actually something else that was causing this and it actually wasn't non-convulsive status epilepticus, but something else, and this seizure could be indicative of that?
A. I don't think you had to infer that at all, no.
Q. I meant "could it".
A. Is it possible?
Q. Yes.
A. Yes.
Q. Then there has been quite a bit of evidence about -- at least you have been asked a number of questions about the actual dosage of the midazolam, both in requests for witness statements and to some extent in your evidence on Friday. Your evidence was that you --
THE CHAIRMAN: We don't need to go back over that again. Is there any additional point that wasn't raised on Friday?
MS ANYADIKE-DANES: There is.
THE CHAIRMAN: Let's get to the point.
MS ANYADIKE-DANES: The evidence that you gave was that the loading dose of 0.15 was something that you got from a particular paper which you provided to the inquiry.
A. That's correct. That paper is the one paper that seems to inform the dosing, but --
Q. Yes. Had you actually used that dosage yourself or come

across it being used while you were in Canada?
A. Yes.
Q. You had used it personally?
A. I hadn't prescribed it, but I was involved in the care of children who had had it.
Q. Sorry, what does that mean?
A. I hadn't prescribed it myself.
THE CHAIRMAN: Somebody senior to you prescribed it?
A. There were other people who were using it and I had been involved.
MS ANYADIKE-DANES: Okay. Then a point that I had put to Professor Aronson and Professor Neville in relation to the seriousness of that drug. You'd, I think, conceded that it was, and I had put to you that in the product literature it talks about the sorts of effects that can be produced, paradoxical effects, and therefore things that one has to be aware of. I had put some of those to the experts and I think to some extent they thought some of it was a counsel of perfection, but nonetheless there were things that perhaps one ought to bear in mind. Maybe I can pull up 311-034-004.
It's really under the precautions. The second sentence. This is from Roche, the manufacturers of Hypnovel, which is a particular type of midazolam that was administered to Claire:

"Hypnovel should not be administered by a rapid or single bolus IV administration."
Is that actually what was administered to her, a bolus of midazolam?
A. That's the way it was recommended.
Q. Where did you see that the single bolus is what's recommended as opposed to the IV administration?
A. That's the way it's recommended in the papers that I quoted or the paper I quoted, and it's the way it was used in my experience: it was given intravenously as a bolus then followed by an infusion.
Q. Were you aware that this is what the product literature said about it?
A. I can't recall whether I was aware at the time.
Q. Then it goes on to talk about only being used:
"In settings with equipment and skilled personnel for continuous monitoring of cardiorespiratory function [and so forth]."
Were you aware of that?
A. I was aware that it was important to monitor respiratory rate and cardiac function.
Q. And were you aware that a possible disadvantage of it is that it can bring about respiratory arrest?
A. It can do, as can diazepam. And we did start Claire on a continuous oxygen saturation monitor which monitored

her oxygen second by second and her heart rate second by second.
Q. When was that started for Claire?
A. After the midazolam.
Q. After the midazolam?
A. Well, at the time of the midazolam.
Q. Given that the nurses and the junior doctors wouldn't necessarily be aware of the effects of this, did you talk that through with Dr Stevenson, who was going to be the person who was making up and administering the drug?
A. Midazolam is a member of a group of drugs called the benzodiazepines, which are very well-known to junior doctors and to nursing staff, and the effects are very well-known.
Q. Would he have known that, that midazolam is part of that group?
A. Yes.
Q. How would he have known that?
A. Because most of the drugs that finish with the term "am" are in that group.
Q. And therefore, does that mean that you assumed that he would know about the possibilities, however rare they might be, that he would understand about these possible side effects?
A. I would have had an expectation that he'd be certainly

familiar with that group of drugs.
Q. Would it not simply have been worth pointing that out to him? This is a junior doctor that you're talking to. These things are powerful medications. If there is a side effect, that could be quite serious. Is there any reason why you simply wouldn't ensure that he did know?
A. I may well have. I just can't recall whether I did or not, but I may well have.
Q. How quickly does midazolam have an effect?
A. It's usually within minutes.
Q. So if you were going to get an improvement from midazolam, you'd expect to see that fairly quickly?
A. Yes.
Q. Did you see any record of that having been noted, that she had an improvement with midazolam within that kind of time frame?
A. No.
Q. No?
A. No.
Q. So there hadn't been that for phenytoin, which may be slightly longer, but still a relatively short period of time -- 15 minutes I think you said. There hadn't been that for midazolam. What was your thinking as to why that wasn't happening?

A. Well, I would have been --
THE CHAIRMAN: Sorry, let's take this in sequence because the midazolam is given some point after 3.30, isn't it?
MS ANYADIKE-DANES: 15.25.
THE CHAIRMAN: If you're going to ask the doctor what his thinking was when that improvement didn't materialise, that brings us into the 5 o'clock examination. Let's go to 5 o'clock.
MS ANYADIKE-DANES: Yes. Then if we come to 5 o'clock, it's not entirely clear when you do attend, but in any event your note is timed 5 o'clock. Mrs Roberts is there, is she?
A. I believe so, yes.
Q. Why did you come at 5 o'clock?
A. I can't recall.
Q. Well, after you had prescribed or suggested the midazolam, had you indicated that you would come again to see Claire?
A. I can't recall.
Q. Would you want to have come again to see her?
A. Yes, absolutely. But I don't know what I was doing. I may well have been with other patients and I just can't recall.
Q. I understand. Why would you want to come again?
A. To follow up on her response to treatment and her

current status.
Q. Well, could you not have simply left instructions?
A. No.
Q. Did you think she was sufficiently ill that actually it warranted you keeping a fairly close eye on her by coming again?
A. Yes.
Q. Some of the clinicians have described Claire as the sickest child on the ward. It's not your ward, but that seemed to connote that they had the impression that she really was quite ill. Are you able to express a view as to how ill you thought she was when you came at 5 o'clock?
A. I was concerned about Claire, but I didn't expect her to deteriorate, and I had an expectation that she would improve over time or at least remain stable. I wasn't expecting a deterioration.
Q. That's the answer to a slightly different question.
THE CHAIRMAN: If you had been apprehensive that she was likely to deteriorate, would you have left her after your 5 o'clock examination --
A. No.
THE CHAIRMAN: -- without speaking to the PICU consultants?
A. No.
THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: The question that I wanted to know from you is how ill you thought she was. Because I presume it is possible for a child to be really quite ill, but you to have the view that that quite ill child will nonetheless respond to treatment. So I'm trying to find out how ill you thought she was at 5 o'clock.
A. It's difficult to measure that. I think ... As I said, I was concerned about her. I felt she needed ongoing treatment and close observation, but I had an expectation that actually, with this condition, she would improve.
Q. Do you think you conveyed to the nursing staff and/or the junior paediatricians who might be there that you were concerned about her?
A. By virtue of my attending to her, certainly.
Q. And by virtue of whatever you found when you examined her at 5 o'clock?
A. My notes, yes. I can't recall the conversations that we had, but --
Q. No, but if your view was that you were concerned about her, and presumably even though it's difficult to measure it on a register how ill you thought she was, you did think that she was ill. Dr Sands had described her as "neurologically very unwell". Would that capture it for you?

A. I don't know that he used that term for me, but ... As I said, I thought she was ill, I had concerns about her, but I can't take it further than that.
Q. If you thought she was ill and you had concerns about her, then the question I was asking you is: do you think that you had communicated to the junior paediatricians there and the nursing staff that that was your view?
A. I think the staff were aware, yes.
Q. That that was your view? So if anybody had phoned up to the ward to find out how is she, they should have received that sort of message?
A. Yes, I think so.
Q. Yes.
THE CHAIRMAN: Sorry, I think specifically what you're being asked is: if Dr Steen had phoned the ward, is that the sort of message she would have got?
A. I would not have expected anybody to tell her that Claire was well. I think my expectation would be that they would convey to Dr Steen that Claire wasn't responding to treatment ...
THE CHAIRMAN: And that you had had to see her two or three times --
A. Yes.
THE CHAIRMAN: -- that day?
A. Yes.

THE CHAIRMAN: And you were prescribing drugs for her, which were significant drugs?
A. Yes.
MS ANYADIKE-DANES: I don't know if you're aware of her evidence, but Dr Steen's evidence was that when she was at the clinic -- which is where she was on the Tuesday afternoon, her routine clinic, I should say -- it was nonetheless possible -- and she did do it from time to time -- for her to come back after that clinic, pass through the ward, and see a child that people may have had concerns over, and she would phone the ward just to see how matters lay with her patients. Her evidence would seem to be that she did contact the ward and whoever told it to her or exactly what words were used, nonetheless she had the impression that Claire wasn't sufficiently ill as to warrant her passing through and having a look at Claire.
Admittedly Claire is not your patient, Claire was Dr Steen's patient, but if she had contacted you directly, would you have expressed a view as to maybe whether she could come and have a look at the child and maybe you and she could have a chat about her?
A. I could have done, yes.
Q. And if you had expressed a view, what view would you have expressed to her?

A. That I was concerned about Claire, but that I had an expectation that things may improve, but that she hadn't responded to treatment so far.
Q. And would you have thought it appropriate for her to come and see Claire?
A. I think that would have been helpful, but I may be thinking that in retrospect, I don't know.
Q. I understand, that's fair. Would you have thought it appropriate or helpful for her -- leaving aside whether she came to see Claire -- to come and have a discussion with you about Claire?
A. Yes, it may have been, yes.
Q. Thank you. Then Mrs Roberts is there and you take a history --
MR FORTUNE: Forgive me. What difference would it have made if the discussion was over the telephone as opposed to face-to-face?
A. I don't think it would have been made any difference, probably. It's always helpful to have another pair of eyes.
MS ANYADIKE-DANES: When examining the child?
A. Yes.
THE CHAIRMAN: So presumably if someone is there face-to-face, that other consultant gets a chance to read through the medical records, which are pretty

difficult to read through in detail over the phone?
A. Yes.
THE CHAIRMAN: But it comes back to a question -- and Mr Roberts raised this specifically in his evidence -- about whether the extent to which Claire was unwell was actually recognised as Tuesday continued through the afternoon into the evening.
A. I think there's no issue that I didn't diagnose her raised intracranial pressure. The issue for me is when did that start to problem a problem for her.
THE CHAIRMAN: You said a few moments ago that you expected Claire to improve. She didn't unfortunately improve. If you were expecting her to improve that indicates there might have been, unfortunately, an underestimation on your part about how unwell she was or what the reason was for it.
A. I think that's reasonable. The issue really is how difficult it can be sometimes to diagnose intracranial pressure.
THE CHAIRMAN: I understand. It also means that if there was some contact with Dr Steen, that Dr Steen might have got an equivalent message that she was unwell, but not significantly unwell.
A. It's possible, yes.
MS ANYADIKE-DANES: Just to assist, can we pull up the note

that you entered at 1700 hours? If we pull up 090-022-055. You've been involved with her from the afternoon on at least two occasions, leaving aside the advice you give to Dr Sands in the late morning. By the time you come at 5 o'clock, she's had rectal diazepam at 12.15, she's had 635 milligrams of phenytoin at 14.45, which turned out to be significantly more than you intended that she should have, but in any event -- I think you intended she should have 432. Then she's also had 12 milligrams of midazolam at 15.25, which also turned out to be significantly more than you intended her to have; you intended her to have 3.6. And she's started on an IV infusion of midazolam at 4.30, at 2 ml per hour, so she's had about half an hour of that, roughly, by the time you arrive.

Also, in terms of her Glasgow Coma Scale, which started off, as you know, at 9 at 1 o'clock, at this time it is 6 or 7, depending on how you measure that. And she'd had a strong seizure, as it was described by her mother at 15.25, and she's had an episode of teeth tightening slightly. So quite apart from anything else that's been written up about her, those are the events, would you agree, that have happened --

A. Yes.

Q. -- by the time you come at 5 o'clock? So presumably

that is all part of what you try and put together and do a bit of a stocktake of: where are we now and what does this mean? How significant an examination did you think 5 o'clock would be, bearing in mind when the change of shifts are?

A. I don't think I can recall how I would have felt at the time, but I ... It was clearly a point where I was going to be handing over care on the wards to the staff that evening, so it was significant.

Q. Leaving aside everything else, the actual timing of it is quite significant.

A. That's correct.

Q. At that stage, would I be right in saying it's probably your last chance to try and readily have things like CT scans and EEGs carried out?

A. I think organising an EEG would have been very difficult.

Q. It might not be so straightforward to organise a CT scan at that hour either, but it could be done, couldn't it?

A. It could be done.

Q. When you arrive at 5 o'clock, or whenever it was that you come, and you're doing the sort of stocktaking to get a sense of where she is with your mind now on the management plan that you're going to have going into the evening, what do you look at? I've given you some

events that have happened. What are you looking at in her notes?

A. I'm particularly interested in the vital signs and in her pupil responses and, for me, her eye movements, which I would have checked myself. So the Glasgow Coma Scale is important, but it's only part of a bigger picture, if you like.

Q. Yes.

A. And my recollection was that Claire hadn't been vomiting over the day, that her blood pressure and heart rate had stayed stable and that her pupil responses were equal and reactive and there'd been no change in that.

Q. Did you talk to the nurses or look at any of their descriptions of how she was presenting over and above the Glasgow Coma Scale?

A. Well, I certainly would have spoken to the nurses.

Q. If one looks at their notes at 090-040-141, admittedly these notes seem to be written all together, so it is not always easy to tease out exactly what the timing of any of these things are, apart from when they specifically put a time. But if you see where it says "5.15"; do you see that?

"Given stat dose Epilim at 5.15."

And then immediately after that:

"Very unresponsive. Only to pain."

Admittedly that's 15 minutes after you're writing your note, but if one looks at the Glasgow Coma Scale at 5 o'clock up until 6 o'clock, it starts at 6 or 7, depending on how you interpret it, and at 6 pm it's 7 or 8. But that description, "very unresponsive", does that fit with what the nurses were telling you or what you were observing, actually?

A. It fits with her Glasgow Coma Scale.

Q. Does it fit with what you were observing? Did she seem to you very unresponsive?

A. She was responding to pain.

Q. Yes. Is that not quite a serious state to have reached?

THE CHAIRMAN: It fits with your note, doctor, doesn't it:

"She continues to be largely unresponsive."

A. That's correct.

MS ANYADIKE-DANES: If that's the case, how different was she from when you saw her at 2 o'clock and you referred to her opening her eyes and so forth and interacting. I think you used the expression "interacting with you".

A. Mm-hm. She clearly hadn't improved and she was less responsive than she had been.

Q. She was less responsive?

A. Yes.

Q. The reason I ask you that is because I got the impression that your evidence was that you didn't think

much had really changed.
A. I think in terms of the bigger picture in terms of her vital signs and observations of her pupil responses and eye movements, there had been no change, but her responsiveness had changed, and part of the explanation for that may have been that she received midazolam.
THE CHAIRMAN: But she wasn't sitting up?
A. No.
THE CHAIRMAN: Were her eyes open?
A. No, I don't think so.
MS ANYADIKE-DANES: So you're saying some of that may actually have been the effect of the medication --
A. Yes.
Q. -- and not accurately mirroring, if I can put it that way, her condition?
A. Underlying condition, yes.
Q. Is that what you thought at the time?
A. Yes, I think that's what I would have expected at the time.
Q. But it might not have been; it might have been a real deterioration.
A. It might have been, but the fact that she improved later in the evening would be against that, really.
Q. Now that you mention it, the improvement later in the evening, you take that in relation to ... If we just

pull this up, 310-011-001. If we have the original sheet, just in case we've missed something in our sheets. It's 090-039-137. If we have that alongside.
If you see along that scale total, there's an "8", which corresponds to the 8 pm on the schedule. Can you see that on the CNS chart?
A. Yes.
Q. There's an "8" there, and if you look along "scale total, 3 to 14", you can see an "8", which is corresponding to 8 o'clock. Apart from that, is there any other evidence of her improving?
A. My understanding from the transcripts is that Claire's parents felt that she was opening her eyes and looking at them and at her brothers during that period.
Q. But apart from that, is there any evidence -- I'm asking you for what's actually recorded in her medical notes and records.
A. Well, it's very significant evidence. It's not on the chart, clearly, but it's very significant evidence if she was opening her eyes at that stage because it suggests that her eye opening GCS was probably 3.
Q. Was that something that you found recorded in her notes?
A. No, it's from the transcripts.
Q. We'll check the transcripts.
THE CHAIRMAN: My note is that Mr and Mrs Roberts said that:

"Between about 6.30 and 8.30, Claire opened her eyes from time to time. Mr and Mrs Roberts encouraged her and reassured her."
So Dr Webb is quite right, there is some evidence of a degree of responsiveness. And that is a greater degree of responsiveness than you found at about 5 o'clock.
A. Yes.
MS ANYADIKE-DANES: So if that was happening at about 8 o'clock ...
THE CHAIRMAN: On my note, that was between about 6.30 and 8.30.
MS ANYADIKE-DANES: What in particular would you attribute that to, finally responding to a combination of the medication or --
A. She may have been responding to the midazolam infusion or perhaps to the Epilim, but it does significantly change that GCS score.
Q. And then it goes down?
A. That's correct.
Q. And then what is the significance of that?
A. Well, as I said, I think that at some point cerebral oedema starts to play a part in her presentation. I'm just not certain when it occurred.
Q. I understand. In any event, as you're there at

5 o'clock, if we focus on that and look at the evidence that you had before you, did you form the view that she had deteriorated a little bit?
A. Well, she was less responsive, certainly.
Q. And why in your view do you think she was not responding to the therapy that you were providing her with, particularly as, in retrospect now, you realise that she got quite a lot of that medication? What's the effect of that in terms of --
A. Well, the fact that she got more than she should have would actually make her GCS lower.
Q. Leaving aside her GCS, but in terms of addressing her underlying problem.
A. It won't have helped. I think the fact that she improved subsequently suggests it didn't have any lasting effect.
Q. If you think that a step from 7 to 8 is significant, presumably a step down from 8 to 6 is significant?
A. Well, it may actually more than one a step from 7 to 8, it may be a step from 7 to 10 if she was opening her eyes, and certainly then a change from that would be significant.
Q. Are you saying therefore that the nurses have failed to record the appropriate level of her improvement?
A. No, I'm saying that there were observations that

suggested that at some time during that period she was opening her eyes.

Q. Well ...

THE CHAIRMAN: In which case the "1" under "eyes open" should be?

A. 3.

THE CHAIRMAN: Should be 3, okay.

MS ANYADIKE-DANES: So then we go back to your note.

MR SEPHTON: Sorry, if I can help my learned friend when she goes to the note of the evidence on 31 October, page 115, where Mr Roberts says:

"I recall at least around that time, if I'm back shortly before 6.30, certainly around 7, 8 o'clock, I do recall Claire opening her eyes and looking at us and us reassuring her and talking to her and explaining that the doctor had seen her."

So it's not merely opening her eyes, it's a question of responsiveness as well.

MS ANYADIKE-DANES: Thank you. So if she was opening her eyes shortly after 6.30 and also at 7 and 8 o'clock -- sorry, that's when he says he's back. If she's opening her eyes at around that time of 6.30, so far as you can tell, what is to be made of the teeth tightening that she experiences at 16.30? What did you make of it when you came to examine her at 5 o'clock?

A. I would have thought it was most likely to be a minor seizure, a brief seizure.

Q. Professor Neville has characterised that as a completely different thing to a seizure and, to some extent, Dr Aronson did as well. Those sorts of movements, I think they both said, are the sort of things that are not seizures, but could be associated with raised intracranial pressure; is that correct?

A. Well, my experience has been that with that sort of movement, you get an extension of the body; you don't just get teeth clenching. So I think it would be very difficult to discern whether this was a movement related to high pressure or a seizure. And if you're looking for probabilities, it's much, much more likely to be a seizure than it is to be teeth clenching on its own to reflect some movement relating to high pressure.

Q. If it was a seizure, would you have expected the nurses to have recorded it as that?

A. My understanding was that it was quite brief.

Q. Yes, but you have characterised it as a seizure and, in these sorts of presentations when you were before distinguishing things, whether things are seizures or not are likely to be important diagnostically for you.

A. It can be, and it can be very difficult actually to be certain of the nature of events without a 24-hour

continuous EEG.

Q. No, but you have, from the description, considered that it was possibly a seizure. What is actually said in the record of attacks observed at 090-042-144, at 4.30, is "teeth tightened slightly".

A. If I was putting any significance to it, I would have thought it was a seizure, but it may just have been agitation.

Q. But is it possible for it to indicate something else that was happening to her, which is not consistent with your view of non-convulsive status epilepticus or some sort of seizure breaking through?

A. I wouldn't have felt that at the time, no.

Q. No. Is it possible?

A. Um ...

THE CHAIRMAN: I'm not sure how much the "Is it possible?" questions really help. As I understand it, it's really very hard to rule out many, many things, so saying something is possible doesn't really advance the evidence.

MS ANYADIKE-DANES: If he thought it was not possible and the experts thought it was, I suppose that would be a point of difference between them that they could address.

A. I didn't think it was not possible.

Q. You didn't think it was not possible.

So then if we go to your diagnosis, you have a number of different views as to what you thought was happening at 5 pm. The first is to be found at 138/1 -- one is to be found at 138/1, page 43:

"I believe that Claire had epilepsy and that she was experiencing a recurrence of her epilepsy, triggered either by an intercurrent viral infection or by meningoencephalitis."

Is that what you thought?

A. This is at 5 o'clock?

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Yes.

A. I think, at 5 o'clock, I did raise the issue of whether this was because of her poor responsiveness, whether there may have been direct infection in her brain, and "meningoencephalitis" would cover that rubric of encephalitis or meningitis.

Q. If you thought that, would that be moving away from the non-convulsive status epilepticus?

A. She could have had both.

Q. Okay. Then at 138/1, page 17, you say:

"My diagnosis was predominantly of an epileptic encephalopathy, but I also considered meningoencephalitis and encephalomyelitis, which is why

I recommended antibacterial and antiviral therapy."

You don't mention the non-convulsive status epilepticus there.

A. The non-convulsive status is, in a sense, almost a symptom of her epilepsy and possibly a symptom of meningoencephalitis.

Q. You mean it's not an independent condition?

A. It's a sign that the brain is upset and it can be upset because you have epilepsy or it can be upset because you have something irritating it.

Q. Well, when I had asked you before what did you think was causing it, you had said -- this is earlier at 2 o'clock. I don't think you were of the view that it was encephalitis so much that was causing her non-convulsive status epilepticus.

A. Mm-hm.

Q. So just so that we're clear, what did you think was causing it at 2 o'clock?

A. I thought it was her epilepsy at 2 o'clock. I think at 5 o'clock she had had some medication and hadn't responded and I was concerned that the possibility of meningoencephalitis should be raised higher and I started her then on treatment for that.

Q. Did that mean at 5 o'clock you thought there might be a different cause for her non-convulsive

status epilepticus?

A. I thought the possibility of the infection that she had causing irritation to her brain directly needed to be considered.

Q. That's what I'm trying to clarify with you. If she has non-convulsive status epilepticus, does that not mean that she is suffering some disturbance of the brain?

A. That's correct.

Q. And the task, apart from treating that disturbance, is to identify what is causing that disturbance; is that right?

A. Mm-hm.

Q. I think that at an earlier point you thought that might all be to do with a tummy bug, some sort of viral problem?

A. A viral illness doesn't usually cause non-convulsive status in a child. This child had a learning disability and had a previous history of epilepsy. That what's what made her different. In that context, I felt -- the first time I saw her -- that that was the most likely trigger for her non-convulsive status, but the non-convulsive status was on the basis of her underlying potential to produce epileptic activity.

Q. So you thought she might have spontaneously had or the virus itself had triggered --

A. That's correct.

Q. -- her --

A. Underlying potential --

Q. -- potential for epilepsy and that had led to her non-convulsive status epilepticus?

A. That's correct.

Q. By 5 o'clock you're thinking maybe it's not that, maybe it's some sort of encephalitis, some sort of problem with an infection in her brain that's doing that?

A. Or both. Or both.

Q. And at 5 o'clock, what did you think was the most likely cause of her presentation?

A. I can't recall what I felt at the time, but I think ... I would have still thought that her underlying epilepsy was the major issue. But I felt it was important that we cover with treatment for the potential for her to have meningoencephalitis. I didn't think it was -- I think I actually wrote in my note that I didn't think meningoencephalitis was very likely, but I felt it was important to treat it.

Q. That's why I'm asking you. I'm asking you these questions because it doesn't always seem that what is in the note fits with some of what is in your witness statement. Because, unless I've completely misunderstood it, you are right that in your clinical

note at 090-022-055 you say:

"I don't think meningoencephalitis is very likely."

Then in your witness statement at 138/3 at page 4, you say:

"At 5 pm I believed I was beginning to feel that encephalitis was higher on the differential than a recurrence of Claire's underlying epilepsy and hence the decision to start acyclovir and cefotaxime."

A. I think that's what I have been saying.

Q. I didn't think that's what you just said. I thought what you had just said --

THE CHAIRMAN: Surely, doctor, what you said a few moments ago was that the major issue was her underlying epilepsy, whereas in this statement, on the right-hand side of the screen, you seem to be saying that although everything isn't entirely clear, encephalitis is now higher on the differential than a recurrence of the underlying epilepsy. If that's the way your view changed, that's fine, because that's part of your reason for going backwards and forwards to see Claire a number of times, which nobody will ever fault you for. But that's not quite what you have been describing this afternoon, is it?

A. What I'm trying to say is that at 5 o'clock I felt that the possibility of meningoencephalitis needed to be

considered, so it was now higher on the differential than it had been at 2 o'clock.

THE CHAIRMAN: But that's not what that says. That says:

"[It's] higher on the differential than a recurrence of underlying epilepsy."

If you had just said that encephalitis was higher on the differential than it had been before, then that's one thing. That's not what your statement says; it says:

"... higher on the differential than a recurrence of the epilepsy."

A. I can't remember at the time exactly what I felt, but I guess ...

THE CHAIRMAN: And the reason you were taken to that is because, as Ms Anyadike-Danes put to you a moment ago, on the left-hand side of the screen, which is highlighted in yellow:

"I don't think that meningoencephalitis is very likely."

But you're saying on the statement -- that's your contemporaneous note made before things went terribly wrong.

A. Correct.

THE CHAIRMAN: The statement that you've made reasonably recently to the inquiry says that it's higher on the

differential than underlying epilepsy.

A. I think what I was trying to get across is it was higher on the differential than it had been.

THE CHAIRMAN: Let me see if you agree with this: do you mean that that sentence on the right-hand side of the screen should read:

"I believed I was beginning to feel that encephalitis was higher on the differential than it had been, but was still less likely than a recurrence of underlying epilepsy"?

A. Yes, that's correct.

THE CHAIRMAN: Do you see why --

A. Yes.

THE CHAIRMAN: That's significantly different from what is written.

A. I can see that, yes.

THE CHAIRMAN: So you're telling us that in fact what you wrote at the time was the view you still adhered to, that you didn't think that encephalitis was very likely, it was a bit more likely than it had been when you saw her at about 1.30 or 2 pm, but still your primary diagnosis was a recurrence of underlying epilepsy?

A. That's correct.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: You also, unless it's my misreading of

your writing -- I don't think you make any reference to her non-convulsive status epilepticus, which is where the others in the team have thought she was. Dr Sands thought she was there when he wrote her -- well, when the note of the ward round is made by Dr Stevenson, in fact, but that was him directing it. And then just above, there is a reference to "still in status", and the midazolam calculation there.

But when you are now having your plan, there's no reference in there as to whether you think she still has non-convulsive status epilepticus.

A. That's correct.

Q. Is there a reason why you don't put that in?

A. No, I think it's already been written in her notes that that is what we thought, Dr Sands thought, and I'm continuing on that vein of treatment for that condition.

Q. Yes, but if you don't include that in there, whomsoever is coming after you to read these, perhaps with a new registrar -- it won't be Dr Sands in the evening -- should anything happen, they've not got a complete note of what you think might be the position.

A. I think that's fair criticism.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Then I think you have at some point said that you did not look at that midazolam calculation and

see that it was the wrong dose that was applied, and the wrong dose is the 0.5. You didn't notice that.

A. That's correct.

Q. But in fact, even if you weren't looking at that and just looking at the amount, does that 12 not jump out to you? You'd wanted her to get 3.6.

A. If I noticed it, I would have brought it to attention, but I didn't.

Q. Maybe this is now a question of whether you should have. When you're coming back at 5 o'clock, you're doing a -- I called it "a stock take", that's probably not a very happy use of words -- a review of what's happened so you can see where matters stand now. You're looking into the evening, you want to formulate some plan for Claire and also leave things in a way that those coming after in the new shift will be able to understand what you think is the position with Claire and how her care ought to be managed. Should you therefore not actually have reviewed exactly what she was being given particularly as you're trying to look at what her response is? Should you not have done that?

A. It would not have been routine to go back and look at the individual drug dosages.

Q. Claire is not a terribly routine case at the moment.

A. I understand that, but that would not have been what

I would normally have done.
Q. But would it not have been a prudent thing? You have advised that, by this stage, she have three different sorts of anticonvulsants, so presumably you're trying to work out what effect all that is having on her and why aren't you seeing the returns for that drug therapy that you would have wanted to see? So would it not have been a prudent thing to say, "Let me check exactly what they gave her and when they gave it to her"?
A. Firstly, there would have been a low expectation that people would have got it wrong. Secondly, it depends on what time you have available to you to do that kind of thing.
Q. Yes, but you don't have to go very far to see it because it's a few lines above your own note.
A. As I say, I accept that I missed it.
Q. It isn't actually you missing it that I'm asking you about because you have said that very fairly. What I'm trying to get at is whether that should not have been part of your review, a conscious decision to now have a look at exactly what she was given and when.
If I give you an example of that. For example, you would have wanted the phenytoin to have been given as a stat dose, which is pretty much immediately. Given that people get busy and things have to be prepared and

so on and so forth, you might want to just check when was she given all these medications, so I can try and see if you can correlate any of that to what's being described to you as her presentation over the period. So would it not have been prudent to have actually looked?
A. I think in an ideal world, yes, but I didn't, and I don't think I would do it routinely.
Q. Okay. So then you prescribe the acyclovir and the cefotaxime. Does that correspond to your view as to what's happening virally with her to address that?
A. That's correct.
Q. You also, do you not, suggest she has sodium valproate, which is another anticonvulsant? Why do you do that?
A. I think if we showed the original form from this morning of the management of status, you can see that there's a series of drugs that you go through.
Q. Yes.
A. So if a child doesn't respond to the first two or three drugs, you move to the next drug. Valproate was a drug that was unlikely to cause major sedation, and she'd had it before, she'd responded to it and had tolerated it well. So if I was going to re-start Claire on treatment the following day, it would have been valproate that I would have worked with, so it seemed reasonable to

give her a trial of intravenous valproate.
Q. But did you not want to at least allow some of what she had in her system to have worked its way through before you start adding more anticonvulsant since she hadn't yet had a terribly positive response to the anticonvulsant you had --
A. No, the schedule usually involves going one drug after the other and you don't wait a period of time to see whether the drug -- more than the sort of ... 15 or 30 minutes after you give the drug, you move on to the next medication.
Q. What were your expectations in terms of the sodium valproate?
A. That she would begin to improve.
Q. How quickly would you have expected her to respond to the sodium valproate?
A. The effect wouldn't be as quick as for the other medications, but you would expect a response within half an hour, usually.
Q. Within about half an hour. I wonder if I could just put a schedule up so that you can see something that we put to our expert. It's 310-020-001. This gives you a sort of pictorial representation of what Claire was actually being administered. When you see it in that way, does it strike you as rather a lot?

A. In the context of managing non-convulsive status, no.
Q. Well, let me add the amounts which aren't there. We'll leave aside the 5 milligrams of rectal diazepam. Let's take the 635, which will be the phenytoin, the 12 milligrams of midazolam, followed by the infusion started at 4.30, and then she's going to have sodium valproate at 5.15. So by the time you have finished your consultation, you're expecting that she will be put on that sodium valproate, 400 milligrams. For a child who hasn't shown any improvement so far, if you had known those figures -- and I appreciate what you say, that you didn't see that she'd been given 635 as opposed to what you wanted her to have, which was 432, nor did you see that she'd been given the 12 as opposed to the 3.6 you wanted her to have. But if you had known all that, what is your view as to what actually she was being administered and the likely effect of that?
A. I wouldn't have had significant concerns about the phenytoin dose. But in relation to the midazolam, I think I would have stopped the infusion and observed for a period of time.
Q. I'm not meaning so much each individual one because these things have a cumulative effect and, to some extent, sometimes the medications react with each other.
A. That's correct.

Q. So if she is now accumulating in her system this amount of anticonvulsant, if you had known that, what would be your view?
A. I don't think that the combination of medications is actually a major issue. There are some children with epilepsy who go home on three or four drugs in combination, and certainly in the context of status epilepticus, this sequence of drugs would not be unusual and sometimes you go to a fifth and sixth drug.
Q. Would it surprise you to know that the inquiry's experts, Dr Aronson and, to some extent, Professor Neville, thought it was possible that the seizure that she had at 15.25 was as a result of the phenytoin and/or a combination of the phenytoin and the midazolam?
A. I think that's most unlikely. Phenytoin can exacerbate absence seizures, but it's most unlikely for it to exacerbate non-convulsive status. The same is true of midazolam. It's most unlikely that midazolam would trigger a seizure. I think if it was given at 3.25, then I would have expected Claire's mother to have witnessed that and to have noticed it.
Q. Well, depending on whether there is a literal accuracy about when it was administered, if it was administered a minute or two before 3.25, then that's the point

that's being made: that might be the seizure that she witnessed.
A. But she would have noticed that.
Q. She did notice. She saw the 3.25 seizure.
A. She would have noticed the administration of the medication. We give midazolam now to almost every child that we see with epilepsy and I cannot recall a single event where midazolam has provoked a seizure.
Q. Are you aware of the fact that paradoxical seizures is something that has been identified both with phenytoin and midazolam?
A. Yes, as I said I think phenytoin is well-known to provoke absence seizures, but it's rare and it's extremely rare for midazolam to do that. So I don't honestly think that's a likely scenario.
Q. It's a statement of the obvious. Although it's rare, presumably there has to be some child in which it happens, otherwise there's no observed effect of it.
A. You're talking about probabilities here. It's most unlikely that that played any part.
Q. And the experts think that there is a possibility that the 9.30 episode -- I think it's described as "screaming and drawing up of arms" -- may also be in response to the medication that she had received. You don't think so?

A. I don't think that's likely.
Q. And if we go on in this theme while I do that, the respiratory arrest may also be related to her medication.
A. I don't think that --
Q. By the respiratory arrest, I mean the one she suffered in the early hours of Wednesday morning.
A. I don't believe that's likely either because if there was an issue with respiration, you would expect it to occur within an hour of giving midazolam, the bolus, and Claire was on oxygen saturation monitoring through all that period and clearly didn't have any problems.
Q. And then I had been asking you about the view that you formed and to some extent that goes into communications between clinicians and I've asked you about whether you'd have wanted to speak to Dr Steen and whether you would have wanted to speak to Dr Sands and so on, but can I ask you about another clinician who we have not been able to identify? Dr Steen was actually going off duty at 5 o'clock and there would have been an on-call paediatric consultant. Would you have wanted to speak to that person?
A. I think if I was going to speak to anybody after 5, it would have been to the intensive care team.
Q. It is possible though, isn't it, that it is the

consultant paediatrician who's on call that might be the first contact point for the registrar who's on duty that evening or, for that matter, the SHO if the registrar can't be identified?
A. My understanding was that the first contact would be with the general paediatrician who's responsible for the child so that they would try and contact Dr Steen first.
Q. Even when they're off duty?
A. That's my understanding.
Q. Where did you have that understanding from?
A. From my time working in the Royal: if they couldn't get hold of the paediatrician, then they would speak to the person who's on call.
Q. And so it's the other way around: you would expect that the person whose child it was would be contacted first. If it's not possible to reach that person, then they'd have contacted the on-call paediatrician?
A. Yes.
Q. Did you know who the on-call paediatrician was?
A. No.
Q. What exactly did you convey to the parents? We've heard what you might have wanted to say to Dr Steen and Dr Sands and what you think you said to the nurses and the junior team. What did you say to the parents?
A. I spoke to Claire's --

Q. I beg your pardon. It would only have been Claire's mother.
A. I would have conveyed my understanding that Claire had had a viral infection, that this had triggered her to have non-convulsive seizure activity and that this was accounting for her presentation, that we had tried a number of medications and we were just about to try another medication to control that, and that I thought the other possibility was that she may have an -- the viral infection may have caused irritation to her brain directly and I was starting treatment to cover that possibility too.
Q. Do you think you conveyed to them that Claire was seriously ill? That even though you had a treatment plan for her, she nonetheless was seriously ill?
A. I can't recall how I conveyed the seriousness of her condition, but I --
Q. Would you --
A. -- would have spelt out what I've just done --
Q. Would you have thought it relevant to convey to her that her daughter was seriously ill?
A. Certainly if I thought that Claire was going to get worse, absolutely. But my expectation, as I've said, was that Claire was going to respond to treatment and that she could make a full recovery from this.

Q. I'm just trying to find out whether you believe you conveyed to Claire's mother that her daughter was seriously ill. Because at 5 o'clock, that is the sort of time when family members might start to think, "Should we be making arrangements for the evening?", or, "What is the position?". That's why I'm asking you that particular question. Can you help as to whether you conveyed to her mother that she was seriously ill?
A. I conveyed to her mother what I thought was the likely diagnosis and our current plan for treatment.
Q. Yes, but to a non-medical person she may not be able to interpret that as telling her whether her child is seriously ill or not. It's possible, is it not, to --
THE CHAIRMAN: Did you think she was seriously ill? We've discussed this in a number of different ways. I think you thought she was ill, but that you thought she was going to improve.
A. That's correct.
THE CHAIRMAN: Had you thought she was seriously ill, then you'd definitely have spoken to the paediatric intensive care unit?
A. Yes, and I would have spelt it out to her mother, but I thought she was going to improve.
THE CHAIRMAN: Right. So you definitely didn't tell Mrs Roberts that Claire was seriously ill because that's

not what you thought?
A. I think it's unlikely I would have said she was seriously ill.
MS ANYADIKE-DANES: In terms of a mother being able to understand how ill her child is so she can decide whether she should make arrangements to stay through the evening with her child, how did you help Mrs Roberts understand that because she may not have gleaned it from the medical information that you had given her?
A. I have difficulty recalling exactly what I said. I'm basing what I'm telling you on what I've written in my note.
Q. Does that mean that you don't have an independent recollection of this conversation?
A. No, I don't, no.
Q. That explains matters. If, for example, Mrs Roberts had asked you the question, "Should I stay in the evening?", subject to the fact that you don't want to dictate anybody's arrangements, but what would your guidance have been about that?
A. I find that very hard to speculate on.
THE CHAIRMAN: Let's not speculate. Mr Fortune?
MR FORTUNE: Sir, given the message that Dr Steen may possibly have got -- and you'll bear in mind Dr Webb's answers a few moments ago -- could what Dr Webb have

said to Mrs Roberts have been any different? Could the message have been any different, Dr Webb?
A. I don't understand that question.
THE CHAIRMAN: If Dr Steen had got a message, whoever it came from, which was in essence that there was no need for her to return to Allen Ward, I think either in respect of Claire or in respect of anybody else -- there's no reason to suspect that this conversation was limited to Claire if it took place.
MR FORTUNE: Well, if it was specific to Claire --
THE CHAIRMAN: Let's say, even if it was specific to Claire, if Dr Steen got the message that it wasn't necessary for her to return to Allen Ward, then you would not have been impressing on Mrs Roberts that Claire was seriously unwell.
A. I think that's correct.
THE CHAIRMAN: She was unwell. I think what you're trying to piece together is what you think that you would have said --
A. Yes.
THE CHAIRMAN: -- rather than having any recollection of what you did say to her.
A. That's correct.
THE CHAIRMAN: You would have been saying that she was unwell, unwell to the extent that you were now trying

another medication, but however you conveyed it, it would still be with the expectation on your part that she would improve?

A. That's correct, and I think my understanding from the transcripts is that Claire's mother understood that I thought this was a return of her epilepsy and essentially that's what I was saying to her.

MS ANYADIKE-DANES: Well then, let's just see what else you put in train then because you're looking to not only get some understanding of where Claire is now, but also where she's likely to be, what the likely progression of her condition is so that you can have a plan for her treatment and management; isn't that right?

A. Yes.

Q. And in fact, in your note, leaving aside what you say about the cefotaxime and the meningoencephalitis, and what you say about the sodium valproate, if we bring up 090-022-055, that's the second item:

"Check viral cultures. Query enterovirus. Stool, urine, blood and ..."

A. "Throat swab."

Q. What were the bloods you wanted to have done?

A. That would be a blood culture.

Q. I know that you didn't think it was necessary earlier, but did you at any stage think now maybe a full blood

count -- or is that what you call a full blood count?

A. Sorry, no, it's a blood sample for a viral culture.

Q. Did you think a full blood count might be in order?

A. I don't think it was going to help us.

Q. Did you think that serum sodium levels might be helpful?

A. It would have been, but I, as I said earlier, had an expectation that that was going to be requested anyway.

Q. Yes, well, this is now 5 o'clock. You're nine hours from when you thought the last sample had been taken.

A. Mm.

Q. You've already got higher up or somewhere on your differential, encephalitis, which brings with it, does it not, a risk of SIADH? And if that's the case, then the management of electrolyte levels is an important factor, is it not?

A. I still think, even eight hours after the level, that I would be surprised if it was going to explain her present condition.

Q. But it's not just a matter of whether you thought it would explain; it's what was routine practice. If you thought that there was a possibility of encephalitis, was that not routine practice to test for these things?

A. It does depend on how high up your differential you have encephalitis, and as I said, my expectation was as part

of the general paediatric care she was going to have her U&E done that evening.

Q. But you're asking for some bloods to be tested. Why on earth not simply ask for a full blood count or at least for the serum sodium levels?

A. Because I had left that to the general paediatric team.

Q. I had mentioned to you before the textbook Forfar & Arneil that you would have been familiar with.

A. Mm.

Q. And it's the fourth edition, 1992, which would have been the relevant one at that stage. If we go to 311-019-007. There you see the start of "Acute encephalopathies" and the aetiology and if you see in there:

"Encephalopathy may also result from the effects of extracranial infection by inappropriate ADH, inflammatory oedema and status epilepticus."

So there is an interrelationship between those two; isn't that right?

A. That's correct.

Q. And then if one looks at the management of the coma that can result, 311-019-009. And at this stage, at 5 o'clock, she has a low Glasgow Coma Scale; isn't that right? So you see the management and then over the page, which is -- well, there's a whole series of things

to be done at table 14.20. If we go over the page to 311-019-010, there's table 14.21. This is part of coma management. In fact, if you see the ones with the asterisk are for "all coma regardless of cause".

Then after you've got through the "EEG continuous", which is not indicated for all coma regardless of cause, just past halfway down, you see:

"Urea and electrolytes (twice daily)."

So far as you were concerned, they were done at 8 o'clock in the morning, you're now at 5 o'clock, you're already asking for some bloods. Why don't you ask for that?

A. Because my expectation was that it was requested by the paediatric team.

Q. Did you think, if you'd got encephalitis as part of your differential diagnoses, that Claire was at risk of SIADH?

A. I thought that risk was small, actually, because she hadn't mounted a fever and, while I was considering meningoencephalitis, I felt it was still down the differential.

Q. But you had meningoencephalitis?

A. It was in my differential, yes.

Q. Then let's look at Nelson, 311-018-012. At the top, this is a section dealing with infections of the central

nervous system, viral meningoencephalitis. And if we go to "treatment", a third of the way down:

"It is crucial to anticipate and be prepared for convulsions, cerebral oedema ..."

And in that list:

"Disturbed fluid and electrolyte balance."

Although they go on to talk about severe encephalitis, and although you might not have thought she had severe encephalitis at that point, nonetheless what I'm putting to you is it's indicated that these are things that you have to be looking at the possibility of her developing. And if you should be looking at the possibility of her developing them, should you not be signalling that to the junior paediatric staff and indicating the tests that might be carried out to determine whether that stage is being reached? And if you see a little bit further down:

"Inappropriate secretion of antidiuretic hormone is quite common in acute CNS disorders so constant evaluation is required for its early detection."

A. What it doesn't say is how common it is in individual conditions. As I said, if this was bacterial meningitis, then there would no question. If this was traumatic brain injury, there'd be no question. In my experience, in the context of a viral encephalitis,

there is actually quite a low risk and, as I said, my expectation was that it was going to be done anyway.

Q. Yes. I suppose finally I'm simply asking you why you did not keep Claire's options open more broadly. Some of these things would not have been difficult to do, to have added on to that blood test that you were seeking. A serum sodium level is not a difficult thing to do.

MR SEPHTON: Can I just interrupt there for a minute? How many times does this witness have to say he thought the paediatric team were going to deal with the blood test before the point is allowed to rest? With great respect, it's difficult to see how this line of questioning is taking the inquiry any further.

THE CHAIRMAN: I think the differential diagnosis was open. He has given the answers that he has on a number of occasions about the blood tests, so let's move on.

MS ANYADIKE-DANES: We then move on to Claire's care overnight.

What are the things that you now know happened, if any, that you would have expected to have been alerted to?

THE CHAIRMAN: The stenographer's been going since 2 o'clock, so let's take a ten-minute break and then we'll resume. Thank you.

(3.50 pm)

(A short break)

(4.03 pm)

MS ANYADIKE-DANES: There is one point I ought to bring to your attention. I was putting to Dr Webb the fact that he hadn't included in his note any reference to status epilepticus. The nurses actually seem to have done so in their note at 090-040-141. I will just pull that up quickly in fairness.

It's not entirely clear when all these things are being done, but there's a reference to the stat dose of phenytoin at 2.45. Then:

"Seen by Dr Webb. Still status epilepticus. Stat IV Hypnovel at 3.25."

There is definitely a reference there. It's not entirely clear whether that relates to what Dr Webb thought at 5 o'clock, but certainly there is a reference to "still in status".

I don't want to ask you very much about Claire's care overnight because, to some extent, you've said that the course for the paediatric team is actually through the consultant paediatricians, one way or the other. But you did say that you expected Claire to improve. That was your expectation.

A. That's correct.

Q. If she didn't improve but either deteriorated or stayed

the same, which wasn't what you thought would happen given what you had prescribed to be administered, did you expect to be contacted about that?

A. I think if she deteriorated, I certainly would have expected to have been contacted and, if she had further convulsive seizures, I would have expected to be contacted.

Q. If she remained much as she had been with these occasional teeth-tightening episodes, that sort of thing, but no discernable improvement, would you be expected to be contacted with that?

A. Probably not.

Q. Can I ask you why?

A. Well, I think if she had remained stable, then I wouldn't be critical of anybody who didn't contact me in that situation.

Q. But in the same way as you had reviewed and changed her anticonvulsant therapy over the afternoon when you didn't see the kind of improvement that you had expected to, I think Dr Steen has somewhat later on, when she's talking about the medication after Claire suffers her collapse, that the kind of medication that you were prescribing to be administering was something she wasn't entirely familiar with and that was really within your expertise. So if she were to think that, nobody else is

really in a position, are they, to be making decisions as to whether there should be any adjustments to her medication to see if things might be improved by that change? So if she wasn't responding, are you still staying you wouldn't expect to be contacted, to be alerted to the fact that she wasn't responding in a way that you had expected?

A. You're asking me to think back to what I would have expected at the time. It's very difficult.

Q. It's not easy, I accept that.

A. I certainly would have expected to have been informed of a deterioration and new developments. I find it difficult to discern whether I would have expected them to contact me in the context of her remaining the same.

Q. Did you have an alternative plan for if your expectations weren't met and if so, what was it?

A. I didn't have a plan to introduce any further medication overnight.

Q. No.

A. My plan essentially was to continue to monitor Claire with the nursing observations and her oxygen saturation monitoring.

Q. I'm putting it to you in a slightly different way. If she didn't follow the path that you anticipated she would -- and, in fact, from that point of view that

would mean that she hadn't ever since about 2 o'clock in the afternoon -- if she didn't, what was your alternative plan for how you would treat her if you were alerted to it?

A. The following morning I would have -- the plan would have been to undertake a CT scan and to arrange an EEG.

Q. So you had no particular plan for the evening if she didn't improve as you thought she ought, or, sorry, as you expected her to?

A. I had a plan for the evening, but I had no intervention planned.

MR FORTUNE: Once again, where do we find that in the notes? It's all very well, Dr Webb --

THE CHAIRMAN: Excuse me. Don't direct your question to Dr Webb. Intervene through me, please.

MR FORTUNE: I'm sorry, sir.

THE CHAIRMAN: And don't do that again.

Dr Webb has indicated he didn't have an intervention planned, but he has indicated what he envisaged overnight and, if there was a deterioration or a new development or seizures, he would have expected to be contacted.

MS ANYADIKE-DANES: And just so that we understand what might trigger that kind of contact, for example there's a further "teeth clenching and groaning" at 19.15.

Would that be the sort of thing?

A. I think that's difficult because it sounds like it was a very brief event. But the event -- I think there was an event at 9 o'clock.

Q. You're absolutely right. There's one at 9 o'clock which is the episode of "screaming and drawing up of arms"; is that something that you might want to eb contacted about?

A. What was more concerning about that is that she developed a tachycardia during it, she developed a fast heartbeat, and I think there were some other changes too, which would be concerning.

Q. Is that the sort of thing that you feel might have prompted communication to you?

A. Yes, I think so, yes.

Q. Or rather, would you have wanted to have known about it?

A. I would have liked to have known, yes.

Q. What would that have indicated to you about her condition?

A. That she was still having seizure activity, which would have been a concern for me. I think I would have certainly wanted to speak to the medical people involved to see what her current status was.

Q. I understand. I think you said in answer, I believe it was, to a question from the chairman that if you had

thought about talking to anybody in particular other than the staff who were around you, the general paediatric staff, then it might be that you would have thought of speaking to the paediatricians in PICU.

A. The anaesthetists, yes.

Q. Sorry. I beg your pardon?

A. The paediatric anaesthetists.

Q. Why did you even think about that at 5 o'clock if your expectation at that time was that she would improve?

A. I think what I said was, in retrospect, I should have done that, I should have considered suggesting to Dr Sands that we make contact with the intensive care team to review her.

Q. This may be a difficult question. Does that mean perhaps, in retrospect, you shouldn't have had such a confident view that she was likely to improve and entertained more the possibility that she might not be?

A. Perhaps that, but also what sort of surveillance she was going to have during the evening.

THE CHAIRMAN: It's self-evident, isn't it, in retrospect, your confidence or expectation that she would improve, unfortunately, was not borne out?

A. That's correct.

THE CHAIRMAN: So this is the point that you made about some of the inquiry experts and you think that it's not --

they're not quite looking through the eyes that you would have been looking at Claire through on the Tuesday from lunchtime onwards. Is this the same point you're making with hindsight, you should have contacted the intensive care team?

A. Yes. I think that's a fair point.

MS ANYADIKE-DANES: Just one last question about that.

When the nursing expert for the inquiry, Ms Ramsay, was giving her evidence, she was saying at 5 o'clock there was enough, really, to have -- not looking with hindsight, but on the evidence that there was at 5 o'clock -- started that conversation with PICU and at least alerted them to the possibility that they might have a child come through in the evening and just seen what the position was. Leaving aside the hindsight point, do you accept that?

A. I can only make a comment in hindsight. I think, at the time, I didn't think that. As I say, in hindsight --

THE CHAIRMAN: It's almost impossible for Dr Webb to answer that because if his position, which I accept, is that if he had realised how seriously ill Claire was --

A. I would have sent her to ICU.

THE CHAIRMAN: He would have sent her to ICU and he certainly would not have gone home at whatever point it was, 5.30 or 6 or whenever you did that evening.

MS ANYADIKE-DANES: I understand that, Mr Chairman. I was seeking, perhaps not very well, to put it in a slightly different way.

Sometimes, at the time, one thinks one's got the right end of the diagnosis and all I was simply asking him is: if he looked at the information and the evidence that he had, did that not at least suggest that he could have contemplated that, but I understand that you've answered it for the chairman, so I don't press the point.

THE CHAIRMAN: Let's move on.

MS ANYADIKE-DANES: As far as you're concerned, the next information you have about Claire is after her arrest?

A. That's correct.

Q. And you are contacted and you go down to the hospital?

A. That's correct.

Q. Can you just help us with, when you get there, Dr Steen is already there; is that right?

A. That's correct.

Q. Do you and she discuss Claire's condition and the treatment that she received over the previous day?

A. Yes, we certainly would have discussed Claire's condition.

THE CHAIRMAN: Let's just check, before you start this: how much of this do you actually remember as opposed to

reconstruction?

A. Very little of it.

THE CHAIRMAN: Okay.

A. But I believe I would have discussed the issue of the viral infection and would have mentioned the term "enterovirus" and that that might have been a likely candidate. And then in the context of her low sodium, I wrote my note at 4.40.

MS ANYADIKE-DANES: Yes. Sorry, that was one point I should have asked you. Leaving aside whether you would have wanted to be contact at 9 o'clock because of the episode of screaming and her other vital statistics at that time, would you have wanted to be contacted when it was shown that her serum sodium levels were at 121?

A. Yes.

Q. So so far as you're aware, there are certain things which relate to what you've just been explaining to the chairman over how you considered her case on the Tuesday, that you relate to Dr Steen. Although you can't remember it specifically, you think those are the sorts of things that you would have raised with her.

A. That's correct.

Q. Do you at that stage form a view as to what's happened? Because this is not what you expected to happen.

A. My assessment of the terminal event was that Claire's

low sodium was likely to have caused cerebral oedema and that that was most likely to have been on the basis of SIADH.

Q. And do you have a view as to how that could have occurred? Because clearly, that wasn't something on your register, otherwise you would have done something about it previously. So do you have an idea of how that could possibly have happened?

A. I would have struggled with that, but I think it's possible that it was related to a viral infection and/or the non-convulsive status.

Q. So in fact she's falling into one of those rare categories that you didn't really contemplate because it was a rarity, if I can put it that way?

A. That's correct.

Q. Do you and Dr Steen get a sort of consensus as to what your combined experience and consideration of the evidence, if I can put it that way, indicates about what's led to Claire's collapse so that you can then speak to her parents when they arrive?

A. Yes, I think we did come to a conclusion that this whole episode was triggered by a viral infection and it led to a series of events. I would have conveyed my feelings that non-convulsive status played a part in the initial presentation, but at some point clearly cerebral oedema

took over.
Q. And when you do come and you write your note at 4.40, is part of what you do having a look at the medical notes and records to see if they can shed any light on what happened, which was the opposite of what you thought should have happened?
A. Um ... I can't recall how much reading of the notes I did from 5 o'clock onwards.
Q. Would you have wanted to look at her medical notes and records as part of your understanding of how this had happened?
A. I may have read them, I just can't recall.
Q. I understand that you can't remember that. I am actually asking whether you would have wanted to do that.
A. I may have got -- Dr Steen would have been there ahead of me and she may have filled me in on what was in the notes. Most of it was her own note.
Q. Did you explain to her about the drug therapy that you had suggested for Claire and that had been administered to her?
A. Again, I can't recall that, but I think I would have.
Q. Did you decide between the two of you which one was actually going to speak to Claire's parents or, if it wasn't going to be one, which aspects of her care you

were going to take the lead on, if I can put it that way?
A. I don't think we had a discussion over that. I think it was quite clear that Dr Steen took the lead.
Q. I know that she did. I'm asking if you discussed it or whether you would have thought that that was something you might have done?
A. I don't think we discussed it, no.
Q. Do you know why she did take the lead?
A. I would have thought it's because she felt that she was the lead consultant and this was her patient.
Q. Yes, but in terms of explaining the treatment that was administered to Claire and why Claire suffered her collapse, that's all effectively within your domain?
A. As I said, we didn't discuss it.
THE CHAIRMAN: Was Dr Steen much more experienced as a consultant than you were?
A. I don't know that for certain, but Dr Steen took control of the situation and dealt with it.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: In your witness statement, 138/1 at page 51, you say:
"I cannot recall the details of what we said about hyponatraemia and brain oedema, but I believe I would have indicated that the brain swelling was due to

hyponatraemia."
Do you think that expression was actually ever used in discussion with the parents?
A. No, I don't think that term was used.
Q. If you were trying to convey the sense of that, what is the, if you like, the more user-friendly expression or description for that?
A. Brain swelling with low sodium.
Q. Do you think low sodium was mentioned?
A. I can't recall, but it may have been. I think it's most likely that it was.
Q. The parents had a meeting with the two of you before the results from the CT scan had been received, and then a meeting afterwards to advise them as to what had happened and also to explain about brainstem death and so forth. The parents, I think, recall that you were there at both, certainly at one. Do you remember that you were there at both?
A. I think I was.
Q. In terms of what might have been explained to the parents, Dr MacFaul was asked about that in his evidence. But before I go to that, can I ask: were you aware of the fact that Dr Stewart, who recorded the events of 11.30 in the evening of Wednesday, had thought that a cause of the hyponatraemia might be fluid

overload?
A. I don't think I was.
Q. At that time you weren't aware of that?
A. No, I don't think I was.
Q. Then if I pull up the explanation that Dr MacFaul gave in his evidence of 14 November of this year, it starts at page 124 and if we can go to 125. If you see, I start the questioning about it at line 8.
Dr Stewart's [sic] first line that there's a fluid management issue, effectively, and that that brings with it the possibility that her fluid management was inadequate and that's what I'm putting to Dr MacFaul, and he says, "Absolutely".
Then I ask him at line 15 and going on:
"In all the circumstances what should Dr Steen and/or [you] have been discussing with the parents?"
Then if you look at page 125, he starts off at line 7 saying it's very difficult, so he will just deal with it in the way that he would have if he were in that situation. He says:
"I think I would have explained that Claire had suffered brain swelling and that that had caused her to stop breathing and had damaged her brain irretrievably, that the brain had swollen from an underlying disease of the brain and the complications of that, which are

a reduced sodium level, and that the reduced sodium level was due to the production of a higher amount of hormone, which reacts to acute brain illness, but also to volume overload, fluid overload, from retention of carry ... and I suppose one would have to say, possibly, in part from the intravenous infusion."

And then if we can bring up the next page of 126. The chairman said:

"Question: I suppose one would have to say --

"Answer: That's difficult. One is always hesitant to lay blame on oneself, I think, and on the regime. It would have to be stated because if you're explaining the hyponatraemia and you've properly conceived its mechanism, then you are considering the two main causes. One is fluid overload and the other is inappropriate ADH. There's only one way that the fluid overload could have occurred and that is by the fluid that had been administered."

Would you say that's a fair summary of how one might have explained events to Claire's parents?

A. I think when you use the term "fluid overload", it implies that you're using inappropriate volume of fluid.

Q. That's exactly what Dr Stewart had thought had happened. In his note --

THE CHAIRMAN: I think we've seen that. Do you have

a reservation about whether there was an excessive volume?

A. I think before you make that conclusion, it's reasonable to review the volumes that were given, and I think if we had done that, we would have seen that the volumes were as we would have expected to give [sic]. So they weren't outside the normal volumes for a child of that age. So there wasn't an overload in that sense.

MS ANYADIKE-DANES: Except for when she was noticed to have 121, of a serum sodium level, and the registrar prescribed that her fluids were restricted. I think you yourself have already noted in fluid calculations when you did your statement for the coroner that actually her fluids weren't restricted at that time. The reason they weren't restricted is because the anticonvulsants that she was also being prescribed were also being given to her in saline fluid. So her total fluid was not restricted.

A. And that would have been more difficult to discern from looking at the fluid sheet at the time.

Q. No, the fluid balance sheet shows that.

A. Well, I think the total was not outside what you'd expect, but I understand what you're saying. The restriction didn't occur as it should have.

Q. Yes. Well, just quickly, so that it's not me just

putting something, 090-038-135 is the fluid balance sheet. What the registrar actually wanted was for her to be restricted to 41 ml an hour. In fact, if one looks at that amount you can see that by the infusion of phenytoin, for example, that she got more than that. The point that I was putting to you is that you recognised she did when you provided your statement for the coroner at 090-053-170.

If you look at the review of fluid balance administration -- so you've calculated the volumes that she received and you say the volume was greater than 64 ml and so on. But in any event, however it is calculated, she was getting more than the 41 ml an hour that the registrar had wanted her fluids restricted to. Presumably it was overlooked, the fact that actually she was, on top of that, going to get all this other fluid with the anticonvulsants in?

A. I think that's true, and I think I certainly didn't pick that up on the evening, in the last four or five hours, that there was an excess.

Q. No. I understand that. So what I was putting to you is that the SHO -- and it was his actual query to his registrar when the serum sodium level came back. He had hyponatraemia and he queried fluid overload and low-sodium fluids. That was one line of his query. The

other line of his query was SIADH. And his impression was that there was a need to increase the sodium content in the fluids to address what he thought to be dilutional hyponatraemia, effectively. And the upshot of that was that his registrar guided him by saying, well, you restrict the fluids to two-thirds of their present value, and that turned out to be 41 ml per hour.

A. When he was writing his note, I don't think there was fluid overload at that point.

THE CHAIRMAN: So you're distinguishing that unlike, say, Adam's case, the low reading of 121, there's a question about whether that was as a result of fluid overload; is that your point?

A. Yes.

THE CHAIRMAN: But the fluid regime was due to be reduced after 11.30.

A. That's right. I think from 11.30 there was an issue about exactly how much fluid should or should not have been given, but prior to that, I think Claire received the amount of fluid that we would have expected to give her, if you like.

MS ANYADIKE-DANES: Yes. So on your view that you would say, well, whatever was causing that 121 serum sodium level, you don't think that was fluid overload at that stage because you think she was getting roughly what she

should --
A. -- appropriate fluid, exactly.
Q. But then she did get more than she should have got --
A. In the last three or four hours, yes.
Q. In your view, did she develop a fluid overload as a result of that? Or could she have?
A. In the last three or four hours?
Q. Yes.
A. I think the volumes are very small and it's not clear to me whether there was a retrievable situation at that time.
Q. Is that something that happened, that she became overloaded?
A. I think she wasn't restricted the way it was intended, certainly --
THE CHAIRMAN: So she got some extra fluid?
A. Some extra fluid, yes.
THE CHAIRMAN: So the question is how significant that was and how significant the overload was and what effect that had on her condition; is that right?
A. That's correct, and that's very difficult to discern, I have to say.
MR SEPHTON: I wonder, sir, if I can throw into the mix the fact that the drugs were served with normal saline rather than Solution No. 18. I don't know if that has

a relevance.
MS ANYADIKE-DANES: I think I did mention that actually, that it was normal saline.
So in your view, therefore, is Dr MacFaul incorrect to say that one should have been considering that there was any error or deficiency, if I can put it that way, in her fluid management?
A. I think, at the time, that's a bit harsh, yes.
Q. At the time?
A. Yes. I think there's been a growing realisation since about the importance of restricting fluids, but at the time I think that's a harsh comment.
Q. The parents then go on, when they are describing their recollection of that meeting, to say that they had asked if everything possible had been done for Claire and if anything else could have been done. And Dr Steen informed them that everything possible had been done for Claire and nothing more could have been done. We can pull that up at the 14 November transcript, page 127.
THE CHAIRMAN: Mr Fortune?
MR FORTUNE: Sir, can we ask Dr Webb if he has a clear recollection that he and Dr Steen actually looked at the fluid balance sheets and did some mathematics before they saw Mr and Mrs Roberts? It's very difficult to discern from some of the answers what exactly he and

Dr Steen did discuss before the meeting as opposed to now, reconstructing.
THE CHAIRMAN: I understand.
You have said, doctor, that you don't have a clear recollection of everything that happened when you came back into the hospital. Can you help on that question that Mr Fortune has raised?
A. I can't be certain, but I think it's quite likely that I would have looked at the fluid chart and just got the bottom line on it.
MS ANYADIKE-DANES: And can one interpret that answer to mean that that certainly would have been what you would have wanted to do?
A. Yes, and I raised the issue of hyponatraemia, so I would have looked at it.
Q. Thank you. And just so that we finish it off for Mr Fortune, if you'd looked at it, because that's what you would have wanted to do, and you believed you were having a discussion with Dr Steen ahead of having to give some sort of explanation to the parents as to what happened, is that the sort of things you'd have wanted to discuss with her?
A. As I say, I didn't take from my observation that there was a fluid overload.
Q. No, whatever you took from the evidence, is that what

you'd have wanted to discuss with her?
A. I'm not sure I understand that, I'm sorry.
Q. When you characterised your own view as to what happened in your note, you have it as -- this is at 090-022-057:
"SIADH, hyponatraemia, hypoosmolality, cerebral oedema and coning, following prolonged epileptic seizures."
A. Mm-hm.
Q. So you definitely have hyponatraemia in there, but as a result or a product of the SIADH and presumably you got that view from having looked at your notes. What I'm asking you is: is that what you would have wanted to discuss with Dr Steen?
A. I think I did discuss with Dr Steen and we would have discussed it, as I said, the viral trigger for all this and how much that would have potentially played a part itself in causing oedema.
Q. Thank you.
Where I was taking you to, which is Dr MacFaul's view of that statement, "everything possible had been done". His view is that that's not correct. In fact, he refers to it -- you can see it at lines 13 and 14 -- as evading the issue because actually her management was not up to the standard of the time in his view and the standard of the time he says is:

"Fluid restriction and adjustment of the sodium content of the intravenous fluid and that should have happened, in my view, from, at the latest, around mid-afternoon."

So in that sense, this was misleading.

A. I actually don't agree with that. I think it's clear from the article in 2001 by Fenella Kirkham that there wasn't a consensus on fluid restriction in this sort of situation.

Q. Sorry?

A. I said I don't agree with this comment because it's clear from the article in 2001 by Dr Fenella Kirkham that there wasn't a consensus on the role of fluid restriction in this situation.

Q. That's a matter that's received some attention as to exactly what Dr Kirkham was explaining in her article, the context of that, and whether that was a statement of general applicability. You will see from the transcripts as to the experts' different views about that.

A. Yes. I think if you have diagnosed SIADH, then there's no issue: you fluid restrict. If you haven't, then I don't believe that there was a consensus on applying fluid restriction in that context.

Q. So all this will come down to is whether SIADH should,

in the circumstances, have been diagnosed, and I think your view is, if it had been diagnosed, then there should have been fluid restriction; if there hadn't been, then that's a matter of fluid management.

A. Yes.

Q. Earlier at the top, Dr MacFaul's answer is that:

"There was no reference in the discussion [that is the discussion as Claire's parents recalled it] to the epilepsy being the cause of the brain illness in Claire, which was what was being handled as the primary explanation at the time, and the alternative explanation, which had not received much attention, but had received some, was meningoencephalitis."

So I think the point that Dr MacFaul is making, and maybe you can comment on it, is that in the explanation that the Roberts say they had, they didn't get the impression that the real cause of her brain illness was the epilepsy or a recurrence of her earlier epilepsy, which might have triggered various sorts of things or pre-disposed her to the non-convulsive status epilepticus, and yet that was throughout, certainly the status epilepticus element of it, something that was being treated for some considerable period of time and remained your view, anyway, as to a primary differential diagnosis. But that's not

something that the Roberts say was explained to them. Should it have been?

A. Well, I'm not certain that I agree with that actually because I think if you look at the transcripts, both parents seem to have some recognition of the fact that this was potentially a recurrence of Claire's epilepsy.

Q. I won't pull it up, but the reference to everything that had been done is reflecting what happened the day before. Was it a correct statement to say that everything that could have been done had been done? I can imagine it's one of the things that you do want to say to parents.

A. Yes.

Q. Do you think that's an accurate statement?

A. Um ... I can see why Dr Steen would make that statement.

THE CHAIRMAN: It depends how you interpret it, doesn't it?

A. Yes.

THE CHAIRMAN: If you interpret it as meaning that everything had been done that could have been done since Claire arrived in the hospital on Monday evening, that's a very, very broad statement.

A. Yes.

THE CHAIRMAN: Whereas if you say as if it's meant to say everything that has been done in the last hour or

two since she collapsed --

A. Since she collapsed.

THE CHAIRMAN: -- and was brought into intensive care.

A. That's right.

THE CHAIRMAN: But the problem, even if you take the narrower, shorter time period after the collapse at about 11 or 11.30, because of various issues about staffing and so on, she was seen by a house officer, she wasn't then seen by the registrar, who unfortunately seems to have been very busy elsewhere, and it'd be hard to say, even on a narrow view, that everything possible had been done. So you'd have to narrow it down again, wouldn't you, doctor, to say: since she was brought into intensive care, everything possible had been done?

A. I think that's fair comment.

MS ANYADIKE-DANES: And I think you would agree, would you not, that by the time she's brought into intensive care she's beyond recovery?

A. Yes.

Q. If we move on to another part of the discussion, which will be the brain only post-mortem. Did you discuss that before it was raised with Claire's parents? Did you discuss that with Dr Steen?

A. I don't think we had any discussion about the post-mortem.

Q. Would that have been an appropriate thing for you to have discussed before it was raised with Claire's parents?
A. Perhaps.
Q. When she was giving her evidence, Dr Steen said -- and the transcript reference for it is 17 October 2012, page 180. I think it starts at line 10. I'm asking her the question:
"In terms of this issue, to confine any post-mortem examination to Claire's brain only, who would you have considered to be the lead clinician on that?"
She says:
"This is looking back and I think the ultimate decision I would put to Dr Webb, which is maybe unfair because I'm putting it to him, but this was a child with an acute neurological condition. We had considered the need -- and I believe he was there with me considering that need -- for a post-mortem of some decision [sic]. So it was important that whatever information we got from the post-mortem was going to give us the most relevant answers."
Maybe not the clearest statement, but she certainly seems to be suggesting that you were the lead in that decision because the problems with Claire, if I can put it that way, were largely neurological.

A. And I'm quite clear that we did not discuss it.
Q. You didn't discuss it?
A. No, because I would have remembered if that was the decision.
THE CHAIRMAN: Do you agree with it as a decision or can you remember at the time --
A. I can understand how it might have arisen because sometimes parents wouldn't want a full post-mortem --
THE CHAIRMAN: Just to make it clear, doctor, that does not appear to have been the Roberts' --
A. That's correct.
THE CHAIRMAN: It's not as if the Roberts were steering you and Dr Steen away from a full post-mortem.
A. Yes. I think my preference would have been for a full post-mortem, so I'm pretty confident we didn't discuss it.
MS ANYADIKE-DANES: In fairness to you, you do say that in your witness statement at 138/1, page 91:
"I cannot recall my view at the time of Claire's death, but I believe I would have expected her post-mortem to have been a full post-mortem pending the parents' consent. I don't believe I was involved in the discussion about the extent of post-mortem in relation to Claire."
Can you help us with why you would have expected

that she would have had a full post-mortem?
A. I wouldn't have seen any indication to limit it to the brain and, given that she presented with vomiting and symptoms of a viral infection, it might have been helpful to have a full post-mortem.
Q. Yes. Well, when that point was being put to others, their view was: that might be so, but the problem ended up being a problem in the brain, and that's the only bit you really need to look at.
A. And if there's any reservation about having post-mortem, it'd be very reasonable to limit a post-mortem to the brain.
Q. So that I understand what you're saying, if the parents had been concerned about it, then given that it wasn't going to be a coroner's case at this stage, that might have been a reasonable thing to do. But if the parents weren't concerned about that limitation, am I understanding you to say that you couldn't see any reason why you wouldn't go ahead and have a full post-mortem?
A. That's correct.
Q. And quite apart from --
THE CHAIRMAN: It's a bit contradictory, isn't it? Because if you think that you need a full post-mortem, but the parents resist it, many parents might naturally resist

that because of what it involves for their child. But if you think that you need a full post-mortem, then you should try to work with the parents to get their agreement to it.
A. And that's what you usually do.
THE CHAIRMAN: Right. Then if there's resistance, which may be entirely understandable, then you might reduce it to a brain-only post-mortem, but would you do that if you actually thought that a full post-mortem was required?
A. I certainly wouldn't.
THE CHAIRMAN: In that event, since you don't have their consent to a full post-mortem, does that make it a coroner's case?
A. No.
THE CHAIRMAN: Then how do you get round the fact, if it's not a coroner's case, the fact that the parents resist consent to a full post-mortem, or can you?
A. If it's a coroner's case, the parents have no say.
THE CHAIRMAN: If it's not a coroner's case and the parents resist a full post-mortem, then all you can do is the limited post-mortem?
A. Yes.
THE CHAIRMAN: And that's because the lead comes from the parents?
A. And that's sometimes the situation, yes.

THE CHAIRMAN: In this case, the lead came from the doctor or doctors.
A. Yes.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: Is that why, Dr Webb, in the 1991 report of the joint working party on autopsy and audit -- and they provide guidance in this way ... We can look at it because I think it's directly relevant to what you've just said, 236-007-068. Maybe we can pull that up a little bit. It talks about "great care" at paragraph 2.2. Because this is now assuming a situation where you have to ask for permission for it and there's a fine line you walk in how you deal with the families. It says:

"Great care should be taken in obtaining permission for an autopsy. The responsibility lies with the consultant in charge ..."

And it goes on whether about it should be delegated or not. The relevant bit is:

"Those responsible for approaching the relatives should be trained in a sympathetic and informed approach. Such training should be regarded as part of the proper duty ..."

It goes on:

"The person obtaining permission should explain to

the next of kin the benefits of the autopsy examination in providing information for them, for the medical staff and in the provision of tissue for homografts, for teaching and for research."

So although their instinct might be that they don't really want that to happen to their child, if you were of the view that there is likely to be some value for them also as well as for teaching purposes, then it's the skill of the clinician to explain that so that the parents can appreciate the benefit to be gained from it. Ultimately, of course, if they refuse, then there's nothing you can do, but that's the process, is it, that you were describing to the chairman?
A. I think that's a good rationale for the suggestion that post-mortems should be complete.
Q. And then can I ask you about the referral to the coroner, which is sort of the counterpoint to that? If you are going to refer to the coroner, then the consent isn't really an issue --
A. That's correct.
Q. -- because it's not something that the parents can prevent. In your witness statement at 138/1, page 53, it says:

"I was not involved in this decision and do not know why Claire's case was not referred to the coroner."

Is that a decision that you expected that you might be involved in?
A. I don't recall the conversation specifically about referral to the coroner. We certainly discussed Claire's case and it's conceivable that Dr Steen felt that in that context we had discussed it, but I just don't recall that conversation specifically about the coroner.
Q. I mean it in a slightly different way to that. I understand that much of this you don't have an independent recollection of, but what I'm asking you is: given that you had treated Claire and set up her drug therapy and seen her a few times and had certain expectations as to what would happen in relation to her path of recovery, as you thought it would be, then would you have expected to be part of a discussion as to whether her death should be referred to the coroner?
A. Well, if I had felt that it was necessary to refer it to the coroner, I certainly would have said that. So that's a slightly different --
Q. It is. The two of you are there and discussing matters, and I'm just asking whether you would have expected, granted you may not remember directly, but expected to have been part of the decision whether or not to refer to the coroner.

A. Yes.
Q. Thank you. When did you know that the decision had been made not to refer Claire's death to the coroner?
A. I can't recall that.
Q. Did you know that that day?
A. I can't recall.
Q. Do you have any thought about whether it would have been appropriate to have referred Claire's death to the coroner?
A. As I said, I think at the time if I felt it was appropriate to, I would have said that. I would have felt, I think, that her death was a natural death and that it had been triggered by a viral infection, and that we had an explanation, if you like, certainly for the terminal event.
THE CHAIRMAN: In essence, do I take it from that that you agree from the knowledge at the time that it was appropriate not to refer Claire's death to the coroner?
A. Yes, and as I said, if I had felt it was, I would have said so.
THE CHAIRMAN: Okay. And you have seen in retrospect that there's some criticism from the experts, a number of whom say Claire's death should have been referred to the coroner. That's not a universal view, but it's a majority view from the experts. What do you make of

their suggestions that it was wrong not to refer Claire's death to the coroner?
A. I think you can take that view, looking back. The issue I think they raised was that it was an unexpected death -- the ...
THE CHAIRMAN: Which is undoubtedly right.
A. That's correct. That aspect of the referral requirement seems to differ in different jurisdictions. In Dublin, my training had been that if the patient died within 24 hours of coming into hospital. My understanding in the north is that it's any unexpected death. So I may not have been aware of that at the time, but certainly that was the situation that it would have been reasonable to, at least, have discussed it with the coroner.
MR FORTUNE: Sir, could we please establish whether, even if it was Dr Webb's preference that there should be a post-mortem, he was present when Dr Steen actually discussed with Mr and Mrs Roberts the concept of post-mortem and, in particular, a limited post-mortem, limited to the brain? And if so, what was his actual reaction when he heard Dr Steen say that?
A. I don't believe I was part of that conversation.
THE CHAIRMAN: I think the suggestion is that you were probably there during the conversation, but is that

probably right?
A. I don't think so. I was there for the first two conversations, but I don't believe I was there for the post-mortem conversation.
MR FORTUNE: Sir, I'm leading up to the passage on 090-022-060, which is the entry in Dr McKaigue's writing, seven lines down.
THE CHAIRMAN: "Initially appeared to be ..."
MR FORTUNE: "Dr Webb and Dr Steen have discussed Claire's clinical condition with her parents. They initially appear to be giving consent for organ donation, but Dr Webb will speak again to both parents at 10 o'clock."
So as we would understand it, if this was a coroner's case, it would be for the coroner to decide whether or not any organs could be donated, bearing in mind the need for a post-mortem. In the event that there was a possibility of organ donation, does that mean that the decision to hold a limited post-mortem had already been taken and, if so, how was the discussion about organ donation going to proceed at 10 o'clock?
THE CHAIRMAN: Okay. Do you understand the point, doctor, that if you're talking to the parents about organ donation, the idea of going to the coroner has already been ruled out?
A. I think that's correct.

THE CHAIRMAN: Right.
A. But I don't think it has any impact on the subsequent discussions about post-mortem.
THE CHAIRMAN: No, I think it's the other way around. I think the suggestion is that if the parents are already being talked to about consenting to organ donation, then the decision about post-mortem in reference to the coroner has already been taken.
A. I think it says "they initially appeared to be giving consent", so there may have been some mention of that as an option. But clearly, that wasn't what happened and subsequently there was a discussion about post-mortem.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: Just to perhaps assist Mr Fortune: so far as you're aware, how many of these conversations were there? I think you've agreed that there was one before the CT scan and there was one after the CT scan, explaining the results of that CT scan. Presumably also talking about what the brainstem death tests would involve. And then there would have been a discussion, I assume, after the results of the brainstem death tests are received.
A. The initial ...
Q. Certainly the initial --
MR McCREA: Sir, my instructions are that the limited

post-mortem was only discussed between the parents and Dr Steen and, secondly, in relation to the organ donation, that was very shortly after Claire was admitted to PICU.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: Thank you.
THE CHAIRMAN: Sorry, shortly after the Roberts had arrived after Claire had been transferred some little time earlier?
MR McCREA: Yes.
THE CHAIRMAN: Okay, thank you.
MS ANYADIKE-DANES: So does that sound like the main meeting was in terms of where she was when you both arrived at the hospital and the parents arrived and what can be seen on the CT scan and the implications of that?
A. Yes. I think the main meeting was the second one, that's correct.
Q. To the extent you remember them at all, that's the one you remember?
A. Yes.
Q. Then if we come to the brainstem death tests. You'll remember on Friday, Dr Webb, I said that that's a part in which we will deal with Adam's brainstem death test as well as Claire's. They raise not dissimilar issues.
If we go to Adam, then your statement is at 107/2,

page 4. It's a long time ago, sorry, to familiarise yourself with it. Your statement is:

"I am fairly sure that no one informed me that the sodium level was so low because, if I'd been aware of the low sodium, I would have considered hyponatraemia to be the most likely cause of the fluid shift."

I think it's at the end of (a). Do you see that?

A. Mm-hm.

Q. And this relates to the point where, when you write your note at 058-035-140 -- let's just have that.

If we bring that alongside. You can see that in that note you've got "fluid shifts" and "osmotic disequilibrium syndrome". And the earlier notes indicate that you were being brought in to give an opinion, a neurological opinion, which is at WS107/2.

So you had been brought in to give an opinion, a neurological opinion. That has been identified as what they wanted. You did that and came to the conclusion of osmotic disequilibrium syndrome. And what you're saying in your subsequent witness statement for the inquiry is that the reason you had that, and I think you said it to some extent on Friday, is because nobody had alerted you to the fact or you did not know that Adam had suffered from low sodium levels, and that's why you reached that view. Had you thought that he had been

hyponatraemic, then you would have not gone to try and see what syndrome he could possibly have been suffering from.

Before you formed that view, because you were asked to provide a neurological opinion, did you look at Adam's notes?

A. I would have looked at ... I can't actually recall, to be honest ...

Q. I'm sure you can't. Sorry. Let me put it a different way: would you have wanted to look at his notes?

A. I'm aware there's a sodium result in the notes and I think the important note on that is that there's a comment about "query dilutional". So I think it's very likely that I was told: look, there's an issue here, but we think it's actually a false result. Because I wouldn't otherwise have gone to look for any other explanation.

Q. If you'd received the information that there's a query here, but we think it's a false result, would you not have actually wanted to go and have a look at the serum sodium levels to the extent that there were any results for him?

A. Well, as I said, there was a note on the chart to that effect with the actual result.

Q. No, I believe there's a laboratory result. I think

there might be a laboratory result for the 119, which is where it was at about 1 pm, 1.30, after the operation.

A. Was that the first sodium?

Q. No, the first low sodium result was through the blood gas analyser, and that was a result that they received there and then at 9.30 or thereabouts during the course of the operation. At the end of the operation, they had a further test done, and that produced a very low result of 119, and there's a laboratory report for that.

That's why I'm asking you whether, if somebody was telling you, "We think there's a low result, but it might be a rogue result", if you're going to do a neurological opinion and that sodium might be an issue in that, whether you wouldn't go and look for yourself. In fact, I think that result is 058-040-186.

There we are. 119. Granted, there's no time given as to when the sample was taken, but that is a very low result indeed, isn't it?

A. That's correct.

Q. And I think your evidence had been: if you'd known there was a result like that, then that might have affected your thinking.

A. And what I'm saying is that it's likely that I was told that there was a low sodium. I may well have seen it in the chart, I don't know, but there is a note to the

effect that it was "query dilutional". So clearly, the medical team looking after Adam were uncertain about the significance of that result. That was certainly how it was portrayed to me.

Q. Yes. All I'm asking you, Dr Webb -- and it's a question that I have asked others in relation to the medical notes and records -- the medical notes and records are there and they are very often imperfect, but they are there. When you are brought in to provide a neurological opinion, then what are the notes that you think you should be looking at so that you can, so far as you can, accurately assess what the child's condition is and give that neurological opinion?

A. Most of the information is provided by the team who are looking after the child at the time because they're most familiar with the child, so most of my information would be discussing it with the nurse who was looking after him. I wouldn't actually go looking to find the form that the sodium result was written on or typed on.

Q. Is it fair to say then that the medical notes and records are not your primary source of information, but it's actually those who are treating the child?

A. It's a mixture of the two. I can't recall, but Adam would have had a large number of charts. This was a procedure that had just been done that morning and ...

I think that the information that would have been written in the chart since the operation is likely to have been limited. I may well have reviewed it and I certainly may well have seen the sodium result, but my understanding from the team was this was not considered to be a real result, as it were.

Q. Are you able to identify who the team was?

A. No. There was an ICU nurse and I believe a member of the anaesthetic team, but I can't recall exactly.

Q. The person I think who had wanted you to be contacted is Dr Savage, who was Adam's nephrologist.

A. That's correct.

Q. And Dr O'Connor might actually be the person who tried to reach you because I think you weren't in the hospital at the time.

A. No.

Q. But both Dr Savage and Dr O'Connor had no difficulty whatsoever from coming to the conclusion on a review of Adam's medical notes and records that he had received an awful lot of low-sodium fluid. They didn't have any difficulty, so far as I can recall their evidence, in reaching that conclusion.

A. When did they make that conclusion?

Q. More or less there and then.

A. I don't know why I was told then that there was any

doubt about the cause of the cerebral oedema.

Q. I don't know who you were speaking to.

THE CHAIRMAN: It depends who told you.

MS ANYADIKE-DANES: But the larger point that I had put to you is that whether the medical notes and records turn out not to be the primary source of information when you are reviewing matters for forming a view as to what is the problem or the difficulty with a child, and the reason I put it to you in that way is because when I was asking you about Claire, for example, you relied very much -- and I'm not for one minute being critical about it, I'm simply making the observation -- on what people were telling you about Claire. For example, you weren't even confident that you'd gone back to the beginning of Dr Sands' ward round note, but you were relying on what he had told you in the morning and what junior staff were telling you when you arrived on the ward at 2 o'clock. And I'm trying to see whether there is a practice, if that's not too established an expression, for not really relying too much or considering in any great depth the medical notes and records, but taking your information more from those who have been directly involved in the treatment of the child.

A. I wouldn't read too much into two cases, but in general I would get most of the information from the team that

are looking after the child at the time. It perhaps reflects how busy you are at the time, whether you have time to sit down and read through the chart, and sometimes it can be quite fruitless reading through the chart because it's quite difficult to read it. In an ideal world, you would take time to do that, but it is not always possible.

MR FORTUNE: Can we try and pin down who it was that Dr Webb spoke to because, of course, you know -- and, perhaps, Dr Webb may now recall -- there is a marked difference of opinion between Professor Savage and Dr O'Connor on one hand, and Dr Taylor on the other. And if it was Dr Taylor to whom Dr Webb spoke, then that might be the opinion given, but Professor Savage and Dr O'Connor were together and unequivocal in what had brought about Adam's death.

A. If it had been Dr Savage or Dr Taylor, I would have known. I would have recalled that because I know the two individuals. I think it's most likely to have been Dr O'Connor because I didn't know Dr O'Connor. I can't be certain of that. I'm deducing that.

THE CHAIRMAN: It shows the difficulty of trying to get the witness to do damage to his memory by over-recalling it because, on the evidence in this inquiry to date, it's rather unlikely that Dr O'Connor would have called that

a rogue result.

MR FORTUNE: Certainly, and if you look at the record, sir, Professor Savage was about that evening at the time and just after the first set of tests had been carried out.

THE CHAIRMAN: Let's move on.

MS ANYADIKE-DANES: I wasn't going to pursue that particular point, Mr Chairman. I was going to ask it in this way because I am still trying to find out, apart from speaking to whichever clinician that you spoke to, if there is any kind of issue at all about fluids, and you know that this child underwent surgery, do you not at the very least look at his fluid balance chart?

A. If I'm being told by the nephrology team that there's an unexplained cerebral oedema, my expectation is that the fluid management, which is the principal issue in renal care, would be something that they would be very familiar with. I've just returned from a clinic in Derry -- I'd been there all day and I've just returned late in the evening ...

THE CHAIRMAN: We have to push on. Dr Webb's been giving evidence since 9.30 this morning. It's been a very, very long day for him. We need to try and finish his evidence today, so let's move on.

MS ANYADIKE-DANES: I accept that, Mr Chairman, but in fairness to the Strain family, can I simply identify, if

he had looked at the medical notes and records, what was there for him to see? Dr O'Connor's note is 058-035-135 on to 137. She refers to Adam as being "puffy", there's mannitol, which you would appreciate the significance of, being prescribed. She says:

"There's a high fluid input abnormal cerebral venous drainage and probably will need to restrict further fluids."

It is she who identifies the need for a neurological opinion, so she is doing it in that context. If you'd seen that, would you have appreciated there's a fluid issue?

A. Yes.

Q. Thank you. Then Dr McKinstry(?), and this is the one you really. There's a marginal note in 058-035-138, and he queries dilutional. Then there's a note in the records at 058-035-140, which talks about "repeating the U&Es tonight" and "the sodium is still low". Then at 058-035-142, "electrolyte/fluid problem". And then you have the lab result that I put to you.

At the time when you are going to write your report, I think there is the record from PICU as to what Adam's sodium results were, and that record is to be found at 057-009-011 as well as 057-020-031. It gives his serum sodium levels as 124, 120, 122, 121 and 125. And

they're all low, aren't they?

A. That's correct.

Q. Were you, at the time, aware of the connection between dilutional hyponatraemia -- this is November 1995 -- and cerebral oedema?

A. Yes, I was familiar with that concept.

Q. Right. So you would have been aware that those serum sodium levels, if they had been produced by a fluid overload in the way that Professor Savage and Dr O'Connor thought, that he had received too much low-sodium fluid over too short a period, that that could have produced those low serum sodium levels and that hyponatraemic condition could have resulted in his fatal cerebral oedema?

A. I think we discussed this on Friday and my view on it was that you have to have something else, so SIADH would have to be part of the picture to account for the cerebral oedema. Just giving low-solute fluids on their own, if the child has normal renal function, the child should be able to deal with it.

Q. Yes, I don't think it's the issue about giving them on their own, it's giving them within the short time frame that you give them, so effectively it overwhelms the person's responses. Do you appreciate that it's possible to give too much low-sodium fluid over too

short a period of time and for that to produce cerebral oedema?

A. I'm sure that's possible, but I think in the context of someone who's had surgery, it's more likely there's an SIADH picture.

Q. If we go to the brainstem death test form, that for Adam is to be found at 058-004-009. The part that I want to you think about is 1(f):

"Could the patient's condition be due to a metabolic/endocrine disorder?"

The first test is at 7.35 on the 27th, and the second is at 9.10 on the 28th. For the first one, I think it is Dr Rosalie Campbell who signs with you. In the second one, it's Dr O'Connor who signs with you.

I had mentioned it before, but I don't know if you'd had an opportunity to look at Dr Simon Haynes' transcript of evidence in relation to this part of Adam's case. It's to be found on 3 May of this year, and it starts at page 106 and then goes on. I'm not going to ask for it all to be pulled up because he has quite an extensive discussion about it. It goes on to 112. He is referring the inquiry to a code of practice for the diagnosis of brainstem death, and that's to be found at 306-035-001. It's dated March 1998 and his view is that what is recorded there is no different to

what was in practice in 1995.

He referred particularly to the flow chart at page 17, which is 0021. That's the series of events which you then have to be able to answer "yes" to -- well, that you have to produce an answer to. In the code itself, one finds -- if one goes to 0011 of the code, this is the "Endocrine, metabolic and circulatory abnormalities":

"Abnormalities such as diabetes insipidus, hypo or hypernatraemia, hypothermia and disturbance of cardiac rhythm or blood pressure may occur in patients following anoxic, haemorrhagic or traumatic cerebral injury. These abnormalities may be consequences of brainstem failure and must be differentiated from abnormalities of endocrinological, biochemical or autonomic function contributing to failure of brainstem function."

So the distinction is whether the hyponatraemia has contributed to the failure of the brainstem function or whether it is a product of the brainstem failure; is that how you would interpret that?

A. Yes.

Q. And in Adam's case, was his hyponatraemia not of the sort that was contributing to the failure of his brainstem function?

A. I think the purpose of that question is to prompt

physicians to consider the possibility that there's a reversible cause of the child's picture. The important word in the sentence actually is "condition". The condition of the child is not just the child's neurological status on examination, it is the -- it includes the CT picture of the brain, which in both Adam and Claire's case showed that there was brain herniation. That's not a reversible situation and on no count is it due to hyponatraemia of its own. So you have three options in how you answer this question. You either say "yes", which essentially is telling an untruth because you don't believe it could happen. You leave it blank, which leaves you open to the suggestion that you haven't considered it, or you answer it "no", this is not a reversible situation due to hyponatraemia.

Q. Can I take you to the view that Dr Haynes expressed? It's 3 May 2012, the page number is 111. If you look at the transcripts of the meeting of the experts in Newcastle, you will see that this is not a lone view, but we'll come to that in a minute. So if one goes down to line 19:

"So we see 134 perioperatively, 119 when he came back to the intensive care unit -- and the last two were 122 and 125."

That's from that sheet that I was reading out to

you.

A. So the 125 figure is the time of the brainstem testing?

Q. Yes. So he's still hyponatraemic either at or shortly before the time -- this is the time of the second set of brainstem death tests. I have to look back and see from that sheet where he was at the time you did the first set. But by the second set Adam, according to Dr Haynes, is still hyponatraemic. And I put to him the normal range being 135 to 145, and he says, yes, that's right.

If we can pull up 112, the next sheet:

"I feel I'm obliged to point out that I have some discomfort that, although I cannot believe for one second that he wasn't actually brainstem dead at the point when both sets of tests were done, more strenuous efforts to return his serum sodium over the intervening hours to a more normal value hadn't been made. I am also a little concerned because the general principle of care of a patient in a coma is that, until he or she is declared brainstem dead, that patient should be treated as if they have a recoverable condition."

I just now have the figures. The first brainstem death test was taken when the serum sodium level was 124 and the second when it was 125.

And then the question is:

"Question: I think that you said you were all agreed, and did you mean by that all the experts in Newcastle?

"Answer: Yes."

And Professor Kirkham down at the bottom says she would have wanted the saline to be normal and she goes on over the page to talk about that and she also refers to how you deal with blown pupils at that stage.

Then over the page, there's a reference to Professor Gross. Professor Gross gave views on what they would do in Germany and the efforts they would make at that stage. Then Dr Coulthard --

THE CHAIRMAN: Could you go back one page please to 113?

MS ANYADIKE-DANES: Yes. There's Professor Gross. There's Dr Coulthard at line 16 expressing doubt about the situation. He says:

"I would have questioned the decision to formally carry out brainstem death tests when there is still a very low sodium concentration."

I think probably there's one more reference at page 111, at line 14, to:

"... carrying out an EEG of 12 and then perhaps another the following day."

And then, if we go to 114, I ask him explain why it's in the protocol that it is important to exclude

these electrolyte imbalances. And he goes on to say at line 7:

"Brainstem death is a diagnosis made when a patient is comatose and is on a ventilator. It is important to exclude any reversible [and this is your point] causes of that coma. The first premise is to be that there has to be an underlying demonstrated diagnosis, which in Adam's case there most certainly was. There has to be the knowledge [and the wording is no stronger than that] that there has to be a certainty that there is no residual effect of any neuromuscular or sedative drug or other intoxicating agents."

In Adam's case, none were present. That's not the issue the experts feel for Claire:

"Then there has to be the exclusion of metabolic and biochemical causes of coma."

And:

"That exclusion has to be made before the doctors making the test can go on and do the test."

Then if we go over the page to 115 at line 12 he says:

"Question: If we look at (f), 'Could the patient's condition be due to a metabolic/endocrine disorder?'; is that what you're talking about?

"Answer: Yes, that is what I'm talking about. It's

an issue which I have thought long and hard about, and even the fact that raising it will be distressing in some circles to talk about, but I feel that we cannot get away from the fact that more strenuous efforts were not made to normalise the concentration of sodium in Adam's blood following his admission to the intensive care unit up to the point in time when brainstem death testing occurred."

He's at great pains to say that he does not think that, had they done that and waited, that the upshot of waiting would be to find out that Adam had some reversible condition. That's not what he's saying. What he's saying is, as I understand it, is that the brainstem death protocol is a very important protocol indeed and it is very important to adhere to it. And all those experts at that stage were apparently in agreement with that and were concerned that more time had not elapsed so that you could at least see whether you could get Adam's serum sodium levels to within normal range. Can I ask you to respond to that?

A. Well, what I would like to ask the experts is whether they are really suggesting that brain herniation is reversible. Because that's what they're implying. I don't accept that a sodium of 125 could explain Adam's picture. You can spend a very long time trying to

correct serum sodiums in this sort of situation and all you're doing is prolonging the agony for the family.

Q. So you don't think --

THE CHAIRMAN: It really depends how you interpret question 1(f).

A. I think it's the question. I think it's the way it's worded. To me, it refers to the child's condition and if you have herniated your brain, that's not reversible. So the serum sodium, you can spend time trying to correct it, but it's not going to fix the situation. And the same is true for the drug scenario. If you've got medications that are sedating, that does not cause brain herniation, and waiting for them to leave the system entirely is not going to fix that.

MS ANYADIKE-DANES: Was that something that was discussed at all in the Children's Hospital at the time as to how doctors should approach this? Clearly, you have taken a certain view as to how that --

A. I'm not suggesting my view is unique to me. I think we discussed it absolutely all the time in this context.

THE CHAIRMAN: I think Ms Anyadike-Danes meant "you plural" have taken a certain view.

MS ANYADIKE-DANES: The point that I was putting to you is that you have taken a certain view as to how 1(c), which is what we will come to for Claire, and 1(f),

which is where we are with Adam, are to be interpreted so as to allow those forms to be properly completed. I'm not saying you alone, but you have a view as to what that means, and that view seems to be different from the experts in Adam's case and, for that matter, some of the experts who have been asked about it in Claire's. So --

A. And part of the reason for that difference might be that they're considering the brainstem death form, but not considering actually the child's condition, the whole picture, which includes the CT scan.

Q. Yes. And the question I was going to ask you is: is there any training, is there any discussion within the Children's Hospital as to the correct way to interpret and complete the brainstem death test form?

A. I don't know the answer to that.

Q. Did you receive any --

A. Yes, I certainly would have received training as I went through my neurology training. This is a situation that you meet all the time.

Q. When you say you received training, that is training as part of your professional training, not training as to what the Children's Hospital in Belfast expected of you?

A. No, no.

Q. Then if we look at the autopsy request form, which one finds at 012/2, at page 26. Would you have been

consulted about this autopsy request form?

A. No.

Q. Would you have expressed a view as to whether Adam's was a case that should go to the coroner?

A. No.

Q. Can you see under the clinical diagnosis, it has:

"Brainstem death due to osmotic disequilibrium syndrome."

You've told the inquiry that that's a view that you held when you came back to the hospital and you had your discussion with whichever clinicians it was at that time, but you had not had an opportunity to see that there was actually low serum sodium, and therefore had an opportunity to consider what you subsequently considered, which is the role of hyponatraemia.

A. That's correct.

Q. Is that right? Do you think that it would have been appropriate? Do you ever recall seeing the underlying documentation that would have indicated to you that Adam developed hyponatraemia?

A. No. I would have been told by Dr Savage, I think.

Q. Told by Dr Savage? Did you ever think that -- I don't know whether one does these sorts of things, but whether it was appropriate to go and add some sort of postscript to your note, because all these notes will ultimately

find their way to the coroner, that that view that you expressed was a view without having seen the documentation and that you now have a different view?

A. No, I didn't, and I think probably because my expectation was that the team clearly knew what the issue was by the time of the second post-mortem, so it wasn't as if it was something that wasn't known about at that point.

Q. But it's --

A. In a sense, hyponatraemia is an osmotic disequilibrium, it's a form of that. That covers the whole osmotic cerebral oedema, if you like.

Q. What exactly does it mean?

A. Well, in the osmotic disequilibrium syndrome, it was due to urea, urea rather than sodium, but the consequences are similar.

Q. But in retrospect, that's not what you thought Adam developed.

A. No. When I wrote the note it was ...

Q. Yes, but nonetheless that clinical diagnosis has found its way on the autopsy request form. That's why I'm wondering whether it occurred to you -- and it may have been that you learned about that very much after the event -- that you should perhaps go and add a postscript. That's all.

A. It didn't.

Q. No. Then can I ask you about your statement? You made a witness statement for Claire's part of the inquiry, 138/1, page 93, which is:

"[You] had no knowledge of the inquest findings in the case of Adam Strain."

And I think you then go on at the next page to say:

"I became aware of the Adam Strain case being associated with IV hypotonic fluids during my visit to Belfast for Claire Roberts' inquest."

So what actually did you know of what was happening following Adam's death?

A. Very little.

Q. Well, you were still there in the hospital because you didn't actually leave until shortly after Claire's death. What would you have expected you should have been involved in in relation to Adam's death?

A. I don't think I had any expectation after I did the brainstem testing.

Q. So that's it? You certify that the child is brainstem dead and --

A. I think that's what Professor Savage asked me to do.

Q. I think he asked you for a neurological opinion. But in any event, you formulate that opinion, you certify that he is brainstem dead, and then you don't have any

further involvement.

A. I wasn't involved subsequently, no.

Q. Would you have thought it appropriate if you were? Having been asked to provide a neurological opinion, it would be clear that people wanted that and you've done it. Do you think it would have been appropriate if you had been included in any consideration of Adam's case?

A. It might have been.

Q. Sorry?

A. It might have been.

Q. Yes. Then in terms of what actually happened, you received a memo from Dr Murnaghan on 6 December, I think, 1995. The reference for that is 059-071-164. You can see there it says:

"The coroner has spoken to me recently on several occasions about this unfortunate clinical outcome and has now written requesting that I obtain for him as soon as possible statements from the clinicians involved."

Then he asks for some other matters in addition. If you see the circulation, it's Dr Savage, Dr Taylor, Mr Brown and Dr Gaston. And then you are on the right-hand side, "Dr Webb: action". What did you understand that was for?

A. I'm not certain that I received this letter, but I ...

Dr Murnaghan certainly asked me to write a report for the inquest.

Q. I think you might have received it and I think that from 059-061-147 because you write back to him.

A. Yes, but I actually think he asked me in person to prepare a report. I'm not certain that I received a letter is what I'm saying. I think he asked me in person to do this.

Q. In any event, you produce it. And you say how you were contacted to see the child and where you were. And then:

"He was noted perioperatively to have fixed and dilated pupils ... complete unexpected finding."

And then you say:

"I examined Adam at this time and noted he was on no muscle relaxants or sedation. His vital signs were stable. He was not hypothermic. He was fully ventilated with no respiratory effort."

Then you talk about his neurological examination:

"I noted he had severe, extensive bilateral fundal haemorrhages."

And you reviewed his CT scan and then you say that you repeated Adam's brainstem assessment:

"My impression was that he had suffered severe acute cerebral oedema, which was likely to have occurred on

the basis of osmotic disequilibrium, causing a sudden fluid shift."

So when you wrote that in the note, you were writing that towards the end of November, and here you are being asked for a statement. Did you not think that you might just go and look at the notes and records before you responded?

A. I may have done, but what I'm doing here is giving my summary of my assessment at the time.

Q. But if you looked at the notes and records, that might be the place to say: that's what I thought at the time, but that was because I hadn't been alive to his low sodium results. I've looked at the notes and records and I now realise that's not strictly correct."

That might have been helpful.

A. I think what I was asked to do was give my resume of what my impression was at the time.

Q. Okay. Then I think there is a meeting that is being organised. Given that when I was asking you about your involvement, you seemed to give the impression that you didn't expect to be very much involved at all. If one looks at the starting place of that, it's 059-042-093. There we are. It's a little bit difficult to see, but right down at the bottom there are two courses of action being noted on this letter that Dr Murnaghan receives

from the coroner. One is the copy of that report, which is Professor Berry's report, which is to go out to those undernoted under (i). Then at (ii):

"RM arrange meeting with all those to be called as witnesses. Drs Taylor, Savage, Keane, Brown, and David Webb."

Do you know why you would have been included in a list like that?

A. I suspect because my name was on the chart.

Q. Okay. Then 059-043-098. This is a memo from Dr Murnaghan and it's confirming a meeting has been arranged for Wednesday 17 April 1996 and there is a list of those to whom it is being circulated, and you are there as the fourth named person.

A. I wasn't at that meeting.

Q. You weren't at that meeting?

A. No.

Q. Is that because you remember that?

A. I would remember it if I'd been at it.

Q. Why would you remember that?

A. Because I think I would. I ... I'm pretty confident I wasn't at that meeting.

Q. Well, why didn't you go? Sorry, why weren't you there?

A. I'm not certain that I actually received a request to attend it.

Q. So why do these things go out? Is that common, that the letters being circulated by Dr Murnaghan, or memos, rather, go out and people just don't receive them?

A. It's certainly possible, but I --

Q. If so, that would be the second one.

A. Well ...

THE CHAIRMAN: It rather looks as if this letter was sent to you. The question is then, "Did you go to the meeting?", and your recollection is that you did not go to any such meeting.

A. No.

THE CHAIRMAN: Do you remember being involved in any consultation in the run-up to the inquest into Adam's death?

A. No, I provided a report for the coroner, but I didn't have any meetings related to it. I didn't attend the inquest.

THE CHAIRMAN: Right. So it's not just that you didn't give evidence, you didn't attend the inquest?

A. No.

MS ANYADIKE-DANES: If we go to two last parts, one is 059-039-082. That's a memo dated 25 April 1996. This is actually attaching the post-mortem report. It says:

"The attached arrived in the post yesterday. I would be grateful if you would read it carefully and

respond to me on its contents, particularly if anything therein raises with you a concern which may lead to a development at the inquest for which we would need to be prepared in advance."

Your name is down there. It doesn't appear that that is a tick that is associated with your name and we don't know who applied those ticks. In any event, did you get this memo?

A. I have no recollection of getting this memo.

Q. Well, if you consider yourself only sort of peripherally involved, and hardly that really, you effectively provided the opinion that enabled the brainstem death test to be performed and you've provided that statement that says that, can you explain why it is that Dr Murnaghan, who is a director of medical administration -- I think he also held the title in litigation as well -- would be including you on his circulation list?

MR SEPHTON: I'm sorry to interrupt again. I think we're all getting tired perhaps, but how on earth can this witness know what Dr Murnaghan was thinking?

THE CHAIRMAN: Yes. Did you speak to Dr Murnaghan about receiving these various letters?

A. I am very certain he did speak to me and he asked me to provide a letter for the coroner. But I don't recall

any other contact with him in relation to it.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: Well, then if we go again to 060-022-041, your name is ticked on that:
"The preliminary correspondence attached has been received from solicitors acting on behalf of [Adam and his family]."
So this is their indication that litigation is to ensue:
"You have kindly provided me with sufficient information to ensure that a witness statement could be prepared for and provided to the coroner."
Well, you have done that:
"However, you will appreciate that more detailed information will now be required by me as case manager for the Trust in order that proper instructions may be given to our legal advisers."
Then he asks for strengths and weaknesses, if any, in the care provided for Adam and tells you how to make arrangements to have access to the case notes if you need that. There's a series of you there, and your name is there as "Dr Webb" and your name is ticked. Did you get this one?
A. I don't recall getting this either.
THE CHAIRMAN: Were you involved in any? There was

litigation brought by Adam's mother against the Trust. Were you involved in any discussions or meetings about that?
A. No. No. And I think I would remember if I had got this letter.
MS ANYADIKE-DANES: Then the final one is 060-010-015. This is a memo from Dr Webb, and this is to you directly, and he sends it to a number, those typically indicated on his circulation list, they each get a separate one. This is one to you, dated 9 May:
"I'm sure you will be pleased to be informed that this claim has been successfully concluded by a payment of the sum ..."
In the second paragraph:
"From a liability position, the case could not be defended particularly in the light of the information provided by one of the independent experts retained by the coroner at the inquest. Additionally, it would have been unwise for the Trust to engage in litigation in a public forum and, given the tragic circumstances of the death, it would not have been helpful for an opportunity to be provided to lawyers to explore any differences of opinion which might exist between various professional witnesses who would have been called to give evidence."

Were you aware of there being any differences of view amongst the clinicians --
A. No.
Q. -- as to why and how Adam had died?
A. No.
Q. Can you explain why Dr Murnaghan should have sent you this?
A. I don't know. Again, I don't recall getting this either. I'm beginning to wonder about my memory now, but I don't remember getting this letter. Again, I think I would have remembered.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Thank you.
Then we have covered much of the ground in relation to Claire's own brainstem death test. The point that I wanted to raise with you is -- it starts in your entry in her medical notes and records at 090-022-058.
Can you see the third line up from your signature?
A. Yes.
Q. "Under no sedating/paralysing medication."
That is dated 6 am. Is that correct, that at 6 am she was under no sedating or paralysing medication?
A. She wasn't receiving midazolam at that time.
Q. No, she wasn't receiving it, but was she under any? In other words, was there any sedating or paralysing

medication likely to be in her system?
A. I think given that her midazolam was stopped at 3 o'clock, it's most unlikely that there would have been any in her system at that time.
Q. What about phenytoin?
A. Phenytoin is not a very sedating medication. It rarely causes sedation, certainly within the normal therapeutic range.
Q. Are you aware of the fact that both Dr Aronson, who's the inquiry's expert pharmacologist, and also Dr MacFaul take a different view from you about that? If we go to the 8 November transcript, page 288 I think it is, it starts at line 17, after I've put to him some of the very areas that I had read to you from Dr Haynes' evidence in relation to Adam. He expressed the view that he understood, he agreed with what Dr Haynes was saying and thought it was perfectly appropriate. And then the question that he recites rhetorically, and the question was:
"Question: Could the drugs present in Claire's body have fallen under that rubric as you just read it?
"Answer: I think they could."
Now, just so that we're clear on the rubric, Dr Haynes gets it from the protocol at 306-035-008. Then you see:

"There should be no evidence that this state [that's the deeply unconscious state] is due to depressant drugs. The benzodiazepines are markedly cumulative and persistent in their actions and are commonly used as anticonvulsants or to assist with synchronisation with mechanical ventilators. It is therefore essential that the drug history should be reviewed carefully and any possibility of intoxication being the cause of or contributing to the patient's comatose state should preclude a diagnosis of brainstem death. It is important to recognise that, in some patients, hypoxia may have followed the ingestion of a drug, but in this situation the criteria for brainstem death will not be applicable until such a time as the drug effects have been excluded as a continuing cause of the unresponsiveness."

Pausing there, did you go back and review the drugs that Claire was under and when she had been administered them so that you could make that entry that she was under no sedating or paralysing medication?

A. I can't recall whether I went back to the chart, but I would have certainly discussed that with the nursing team who were there.

Q. Sorry, just so that I'm clear, where were you when you made that entry in Claire's notes? Were you in --

A. In the intensive care --

Q. You were in intensive care?

A. Yes.

Q. So then the nurses that you are discussing with are those the nurses who are in intensive care?

A. Correct.

Q. So they wouldn't have been the nurses who would necessarily have known when she was being administered any of the medication that you had recommended?

A. Correct. They should have had a handover, but they wouldn't have --

Q. Given the circumstances in which Claire was transferred to PICU, they might not have had that kind of handover, if I can put it that way. So that's why I'm asking you, when you now come to make this entry, which you do at 6 o'clock, so presumably you can then proceed to commence the first of the brainstem death tests, do you check what actually was administered and when it was administered so that you can make that statement?

A. Well, I would have known that diazepam was given the previous evening -- afternoon, rather. I would have known that the phenytoin was given the previous evening. I would have known the midazolam was stopped and the valproate had been given the previous evening.

Q. Sorry, you'd have known that the midazolam was stopped?

How did you know that?

A. Well, I would have asked that.

Q. Did you know that not only had she had that phenytoin bolus, but she'd also had more phenytoin at 23.30?

A. Yes, I would have --

Q. How would you have known that?

A. Because that's what I prescribed.

Q. I'm not sure you did prescribe that. What you prescribed was that they should take the phenytoin levels and then they should administer the phenytoin if those levels were within the acceptable range. How did you know what the levels were when they took them and when they therefore administered the phenytoin?

A. How did I know the levels?

Q. Yes.

A. I think the result was available at that stage.

Q. No, but I'm asking you how you knew. At that stage you're in PICU, you have the nurses there in PICU and, unless you are looking at Claire's notes, how do you know that when, firstly, they checked her levels -- because actually they seem to have checked her levels slightly later than you envisaged that they would have --so how do you know when they did that, what the levels were and, therefore, that they would or had not administered further phenytoin?

A. I think it's likely that I would have looked at the drug chart, but I can't recall doing that. And what I'm saying is that if she'd had a dose of phenytoin, it would have been one further dose the previous evening.

Q. If you had looked at the drug chart, though, you would have seen that she had received more than you had wanted her to receive.

A. In the bolus?

Q. In the bolus for phenytoin, and if you'd looked at the drug chart for midazolam, you would have seen that she received more than you wanted her to receive for midazolam.

A. In the bolus?

Q. Yes.

A. Yes.

Q. Did you?

A. I don't know. I can't recall whether I looked at the chart or not, but I certainly would have discussed the medications with the nurses who were looking after her at the time, and my ... I'm fairly certain that her midazolam had been stopped, that she had one further dose of phenytoin, she had one dose of diazepam the previous afternoon and she'd had one dose of valproate.

Q. And she had had midazolam up until at least 3 o'clock.

A. 3 o'clock, yes.

Q. So the only point I'm really trying to put to you is: you fairly say you can't remember whether you did look at the drug chart, so let's leave that out of it because you can't remember and that's probably fair enough, but is it something you should have looked at in order to make a statement like in that in her notes?
A. Yes. I think that's fair criticism.
Q. Thank you. And just because this will turn on -- I know that this a governance issue, so while it is there, let me just quickly ask it. If you had looked at it, which you think is probably a fair enough thing to say, and you had noticed that there were overdoses, in other words, she was given more than you had wanted her to receive, is that something that -- maybe not then because that's a critical point, you're trying to deal with an emergency situation, if I can put it that way but is it something that you think should have been taken up later on and addressed how those errors could have happened?
A. Yes.
Q. Thank you. And if that was going to happen, where was the forum for that?
A. I would have expected that there would have been an audit meeting, a mortality and morbidity meeting that would have discussed Claire's case.

Q. And is that something you think you should have been invited to?
A. Yes.
THE CHAIRMAN: Would you also agree that if the overdoses had been picked up at that point, that would have led inevitably to Claire's case being referred to the coroner?
A. I think that's right, yes.
MS ANYADIKE-DANES: Thank you.
If I just ask you this quickly because I know that time is marching on and you have been there answering questions for a very long time. Dr MacFaul also is of the view and I think he says that on 14 November, page 130, line 12. He picks it up because I put to him the background to it, if I can put it that way. He picks it up at line 20 and he agrees that it's not an accurate statement, it's not correct. He says:
"It was not correct that she was under no sedating medication. The fact is that she was still having some effect of the sedating medication because the phenytoin was likely to be at a significant level, exactly what -- but it has a long half-life ..."
You will know that it was 19.2, I think it was, at about the 3 o'clock in the morning, but nonetheless both he and Dr Aronson formed the view that there should have

been a period of delay when you allowed the levels to go lower and Aronson said that where he would have wanted to have them was below 10.
So both of them -- I'm not going to go through it all in detail, but you get the sense of the criticism they are making that, in those circumstances, you shouldn't have embarked upon the first brainstem death test.
A. And it comes back to the wording of the sentence, and I think that the child's condition is the important word in the sentence. And really, under no circumstances, could I accept that the medications that she'd received could account for the condition with brain herniation. That was not a reversible condition.
Q. I understand. At a slightly different point, Dr MacFaul says at page 133 -- leaving aside whether you could have completed accurately the brainstem death test in that way -- his view is that you couldn't, with confidence, say at that time that she had no sedating or paralysing medication. He says that at line 19.
So the brainstem death test might be a slightly different issue from what you write on her charts. Do you accept that you couldn't with confidence say that?
A. Yes, I think that's fair.

Q. Thank you. If I can go to the request for autopsy form, to be found at 090-054-183, you're included in there. At the top as the consultant it's "Dr Webb/Dr Steen". I should ask you first: had you seen this form before?
A. Not at the time, no.
Q. Would you have considered that appropriate to have "Dr Webb/Dr Steen" there as the consultant?
A. I suppose I was a little bit surprised that my name was first, but I could understand that Dr Steen would include me on the forms, certainly.
Q. Then in terms of the history of the present illness, that has been gone through in some detail, so I'm not going to ask you about that, but I will ask you about the clinical diagnosis:
"Cerebral oedema, secondary to status epilepticus, query underlying encephalitis."
That's not quite how you put it in your note. If you had been shown that form with a view to discussing it or helping Dr Steen complete it to send off to the pathologist, would you have framed that slightly differently?
A. I think I would.
Q. And would you have wanted to see it reflect what you had actually written in your note at 4.40, I think it is?
A. I think I would have included SIADH in the description.

Q. That's the point I was going to put to you. You'd have wanted to see the SIADH in there. And if you see how Dr Steen has framed it there, "cerebral oedema secondary to status epilepticus", at the time Claire actually died, did you consider that that was the secondary cause of her death?
A. The secondary?
Q. It says, "cerebral oedema, secondary to status epilepticus". It's just the way in which the --
A. I don't think that's how I would have formulated it.
Q. Do you think it's correct?
A. Um ... I don't know the answer to that.
Q. Sorry?
A. I don't know the answer to that.
Q. Well, in your description you've got:
"SIADH, hyponatraemia, hypoosmolality, cerebral oedema and coning ..."
You don't actually have status epilepticus in there at all:
"... following prolonged epileptic seizures."
But you don't have that as the secondary cause of the cerebral oedema and therefore her death.
A. That's correct, and I think my note really reflects what I thought was the terminal event.
Q. Yes.

A. But I accept that I certainly would have considered encephalitis as a possibility and status would have been in there as a possible trigger for SIADH.
Q. So if it had been discussed with you at all -- and I'm not saying it was -- but if it was, would you have preferred to see your formulation of the steps by which Claire came to have her fatal cerebral oedema as you have written them in your account in the notes?
A. I think it would be reasonable to include the SIADH, certainly.
Q. And to include the hyponatraemia?
A. Well, they go together.
Q. Yes. Dr Steen says that she would have discussed the drug therapy with you as it was beyond her familiarity in the treatment of children.
THE CHAIRMAN: No, I think she said, if she had spoken to Dr Webb during Tuesday, she would have wanted to discuss the drug treatment with him because it was far beyond her knowledge or experience.
MS ANYADIKE-DANES: Yes, so I was going to ask: given that you didn't have an opportunity to do that with her on Tuesday, did you at any stage when she was formulating her thoughts for the Roberts or reaching a view as to the autopsy, discuss your anticonvulsant therapy with her?

A. I can't recall that, but I think I would have.
Q. Would you have thought that midazolam should have been included in the drugs that she has listed there? She's got diazepam, phenytoin, valproate, acyclovir and cefotaxime. Would you have expected to see midazolam included in there?
A. I don't see any reason why it would be left out, yes.
Q. The last area I have to ask you about is about the explanation to the parents and after the autopsy and, in particular, in the 2004/2006 part. Subject to anything from anybody else, that's the last area I would like to address with you. Are you content that we finalise that?
A. Yes.
Q. Thank you. In fact, given what you have already said about what you spoke to the parents about at the time with Dr Steen, perhaps we can simply confine it to the 2004 period. Dr Rooney informed or Mr Roberts that Dr Rooney informed him -- this is in 2004 -- that Dr Steen, you, Dr Hicks and Dr Sands were to carry out the review. That is the review in relation to his daughter's case. At that stage you were no longer with the Trust, you were in the south. Did you have any indication at all that you would be part of any review?
A. No.

Q. Did anybody contact you about the case shortly after it came to light, which is --
A. I was contacted in relation to the inquest, but not --
Q. No, the parents contacted the trust shortly after the UTV programme, which is in October 2004, and then they actually had a meeting in December 2004. Were you told anything at the tail end of 2004 in relation to Claire's case?
A. No.
Q. Then you prepared a deposition for the coroner in relation to Claire's inquest.
A. That's correct.
Q. Was that because Mr Walby asked you to do that?
A. Yes.
Q. You seem to have had the notes and records for it, we can see that at 139-098-002. This is the start of it, it's very detailed, I think you'd accept. Is it done -- and it would appear, because you go through in some detail the events. It's done with the benefit of having seen Claire's notes, isn't it?
A. I must have had a photocopy of the notes, yes.
Q. In fact, I think you refer to having a photocopy of the notes. You go through and you talk about the 132, which you interpret at that stage as being a record from midnight. You deal with the phenytoin and midazolam.

We see that at 139-098-008. But when you deal with the midazolam and phenytoin, which you can see in your notation, if you're looking at the notes you haven't picked up any error there.

A. That's correct.

Q. And then Dr Stewart's note is at 139-098-010. There you see Dr Stewart's note, the sodium is 121. You have that reasonably -- quite faithfully reported as the hyponatraemia fluid overload, but you're not drawing any conclusions about that, you're simply describing that that's there?

A. That's correct.

Q. Is it fair to say this may have been the first time you saw the entirety of Claire's notes from her admission? Sorry, not saw them, scrutinised them.

A. Yes, I think that's fair.

Q. And then there's the loose bowel motion, that's dealt with, which at some points has been perhaps miscommunicated. 139-098-018. Then that Claire had a witnessed seizure on the day prior to admission and was having subtle, non-convulsive seizure activity. That's at 139-098-019. That's up at the top there.

So that's the compass of what you are looking at, but I wonder if you could help us with this. It's at 139-098-021. Do you see right down at the bottom? This

is something that you have given evidence today about in relation to PICU. You say there:

"I made the mistake of not seeking an intensive care placement for Claire before I left the hospital on the evening of October 22nd."

This is a statement that you provide to Mr Walby, who asked you for it, and you sign it. He then makes amendments to it. One of them is to strike out your acknowledgment of what you believed to be a mistake and to substitute:

"Although I did not seek an intensive care placement."

Can I ask you, when Mr Walby asked you to provide the statement for the coroner and you did that and you signed it, did you expect that he would make any amendments to it?

A. No, I didn't think that he would, actually.

Q. He writes a letter to you about it, actually. You can see that at 139-096-001 where he explains what he's done. He says:

"I have changed the sentence beginning 'I made the mistake' as I think it's not clear that it was a mistake and I would allow others to judge that if they wished."

But you thought, your judgment was that it was?

A. Yes, I think that's correct.

Q. The statement then goes out with Mr Walby's amendments. That's how it goes to the coroner. Why did you allow that to happen?

A. Um ... Well, I guess I was influenced by his comments that it wasn't clear that it was a mistake.

Q. Yes, but was he in a position to judge that at that stage?

A. I don't know.

Q. But you'd formed a view about it.

A. I had formed a view that I should have made contact with the PICU staff.

Q. Yes. So why didn't you insist on your view, which is what you thought was the position, and in fact is a view that you've repeated here? Why didn't you allow that view to go to the coroner?

A. Because, as I said, I think I was convinced by his argument that it perhaps wasn't clear that it was a mistake.

Q. Well, if you look at the top of this letter, although Mr Walby is the associate medical director, it is being sent from the litigation management office. Do you think that might have been influencing things?

A. Possibly.

Q. Well, then, if I ask you to look at this, which is the good medical --

THE CHAIRMAN: Sorry, the point is here, Mr Walby doesn't say that you're wrong, that it isn't a mistake; he says:

"I think it's not clear that it was a mistake."

A. Yes. I think that's a fair comment for him to make.

THE CHAIRMAN: But it's your statement. If Mr Walby wants to give evidence to the coroner, presumably he can, but do you accept that he should be dictating what goes into your statement?

A. No, but I think he made the point to me and I accepted it.

MS ANYADIKE-DANES: Can I just refer to you this: this is the General Medical Council that deals with these matters, and the one that was relevant at the time was the Good Medical Practice of 2001. That was withdrawn in November 2006, but it was the one that was relevant for that period. If one looks at 314-014-014, this is complaints. Firstly, are you aware of this practice?

A. The GMC?

Q. Yes.

A. Yes.

Q. And that when you sign those sorts of statements, irrespective of who your employer is, you have your obligations as a doctor?

A. Yes.

Q. Then if we look at 314-014-014 under "complaints and

formal enquiries", if you look at 30:

"You must cooperate fully with any formal inquiry into the treatment of a patient. You must give to those who are entitled to ask for it any relevant information in connection with an investigation into your own or own healthcare professional's conduct, performance or health."

Then at 32:

"Similarly, you musts is the coroner by responding to enquiries and by offering all relevant information to an inquest or inquiry into a patient's death."

If you thought, irrespective of what Mr Walby that, that you might have made a mistake and that it would have been better to have contacted PICU at that stage, is that not something that you in furtherance of your duties and obligations should have retained in your statement?

A. As I said, I think the case was made to me that I may be incorrect and I listened to Mr Walby.

Q. But should anybody be making a case to you? You've drawn up your statement, which is an extremely detailed statement and you have signed it. Presumably you took some time to do it and it was a careful statement. That was your best view as to what you thought was appropriate to go to the coroner. Should you have

allowed anybody to have interfered with that?

A. I wasn't making a statement of fact, it was an opinion.

Q. Yes.

A. And, as I said, I think Mr Walby's convinced me that my opinion maybe wasn't correct.

THE CHAIRMAN: When you say he convinced you, did he do anything other than write that letter? Did you speak on the phone about it?

A. No, I don't think we did.

THE CHAIRMAN: It seems a bit strange that you used the term that he convinced you when all he did was write back. He didn't say that your view was wrong, he simply said it was a view that others might not agree with. That's not convincing you that you had not made a mistake. That's saying, "Well, you say you made a mistake, not everybody would agree with you". It's rather short of trying to convince you, isn't it? I'll tell you how it reads to me, doctor, and I'm very worried about this because this comes after this inquiry is established and after this inquiry is established there is evidence in this letter that a senior figure in the Royal Trust, as it then was, is influencing the information which is being put before a coroner for the conduct of an inquest into a child who may have died from reasons connected to hyponatraemia. And when a doctor who's involved in that

inquest suggests in his statement that he made a mistake, he's given a very clear steer to withdraw any suggestion that he made a mistake. Do you understand why that worries me?

A. I do, yes.

THE CHAIRMAN: Okay, thank you.

MS ANYADIKE-DANES: I have just been asked to put one final point to you.

MR QUINN: This is vexing the parents and they've asked me to include this point specifically in the opening of the case on Thursday. The parents want to know if he made a mistake or not.

THE CHAIRMAN: Well, is it -- when you wrote that -- could we bring up the original of that on screen again? Not the original, the handwritten --

MS ANYADIKE-DANES: 139-098-021.

THE CHAIRMAN: What you seem to be saying in that final paragraph, doctor, is that you have made a mistake by not seeking an ICU placement for Claire, but you're not sure whether she would have met the criteria for admission. Right? Can I take it that when you drafted that statement and sent it to Belfast that that was a view that you took, that you had made a mistake?

A. I think that's correct. I ...

THE CHAIRMAN: Whether it's a mistake which had consequences

is another matter.

A. Yes.

THE CHAIRMAN: But your view was that you had made a mistake?

A. I certainly was of the view that I had made a mistake by not contacting the ICU. The question of admission I wasn't certain about perhaps because I followed up by a statement that it wasn't entirely clear whether admission would have been justified.

THE CHAIRMAN: I understand. There's a qualification. In your original draft there was a qualification of it. But the point is that as you drafted the statement and presumably as Ms Anyadike-Danes just asked you, thinking carefully about the contents of the statement, you were conceding that you had made a mistake?

A. That's correct.

THE CHAIRMAN: Thank you.

MR QUINN: Does it then follow that his evidence given under oath today is wrong? Because today he said he expected improvement. So the two can't sit together. He said today that he expected improvement, therefore --

THE CHAIRMAN: I'm not sure they're contradictory. I'm not sure that making contact with ICU wasn't necessarily a fallback. I don't think they're necessarily contradictory.

MS ANYADIKE-DANES: Two last questions. Not that last point that was put but in relation to the statement itself. You'd provided the statement, finalised and signed, and what happens is that Mr Walby amends it and then sent, presumably, it back to you with that cover letter, saying that that's what he has done. Do you then retype it and re-sign it and send it out with his corrections?
A. Yes, I think so, yes.
Q. Thank you. This is the final point I wanted to ask you about. It's an e-mail and it's from Professor Ian Young to Michael McBride. It's at 139-153-001. If we pull that up:
"We met with Heather Steen this afternoon, reached a measure of agreement about the role of hyponatraemia. She wants to be present. I will deal with the fluid issues. Hopefully this will work. Heather has definite views about the significance of the fluid management, which are not quite the same as mine. Nichola will offer the parents an opportunity to meet with me separately if they wish to. Heather thinks it's important that someone should speak to Dr Webb in Dublin so that he is informed about what is happening. Do you want to do this or will I contact him?"
The date of that is 6 December. Can you help with how you were contacted?

A. I think I received an e-mail from the trust, but I can't be certain.
Q. Do you have it?
A. Possibly.
THE CHAIRMAN: If you have, when you finish today, over the next few days, doctor, could you try to trace it to us and if you can, please send it to us?
A. Yes.
THE CHAIRMAN: And any related exchanges.
A. Sure.
MS ANYADIKE-DANES: If you can't recall this, please say, but is it simply asking you to furnish a statement or is it seeking some other or different involvement?
A. I can't recall.
Q. You can't recall. Well, if you could find the e-mail, that would be very helpful.
MS ANYADIKE-DANES: Mr Chairman, I don't have any further questions.
MR SEPHTON: In view of the question my learned friend has just put, if the doctor's attention could be drawn to witness statement 138/1, page 74.
THE CHAIRMAN: Which paragraph?
MR SEPHTON: It's the very first sentence on that page. It's the one where he's conceding in his first statement that he believed he made a mistake. Then my

recollection on my feet is he also dealt with that in his second statement, that he -- the witness statements which he adopted in the beginning of his evidence on Friday all made perfectly clear that he was considering that he thought that he had made a mistake.
THE CHAIRMAN: Can you remind me? When this long first statement was provided, who was providing him with legal advice? Had he gone to Tughans at that stage or was he with DLS?
MR McALINDEN: He was with the DLS.
THE CHAIRMAN: Right.
MS ANYADIKE-DANES: I'm asked to ask you -- I think you might have answered it yesterday, but I'm asked to ask you: did you attend a grand round or know about a grand round in relation to Claire?
A. No.
MS ANYADIKE-DANES: Thank you.
THE CHAIRMAN: Okay. It has been a very long day, doctor. Thank you very much. That concludes your evidence.
Ladies and gentlemen, thank you for your patience today. We've got the return of Professor Neville tomorrow morning. He'll be coming here in person. I know it will not get a huge welcome, but we'll start again at 9.30 to get through Professor Neville. We have Professor Scott-Jupp by video link. The video link will

not be available before 2.30, but we'll take him after that and we'll continue to get through the evidence. Thank you very much.
(6.30 pm)
(The hearing adjourned until 9.30 am the following day)

I N D E X