Friday, 30 November 2012

(9.30 am)

DR MEENAKSHI MIRAKHUR (called)

Questions from MS ANYADIKE-DANES

THE CHAIRMAN: Ms Anyadike-Danes?

MS ANYADIKE-DANES: Thank you, Mr Chairman. Good morning.

I wonder if I could call Dr Mirakhur, please.

Good morning.

A. Good morning.

Q. Can I just confirm that you have a copy of your CV?

A. Yes.

Q. Thank you. You have made two statements for the inquiry in this part of the investigation. You had previously made a statement in relation to Adam's case.

A. Yes, correct.

Q. The series number for the two statements that you made for the inquiry is 247. Your first one was dated 30 May 2012 and your second was dated 18 September 2012.

Do you adopt those statements as your evidence, subject to anything that you may say in this oral hearing?

A. That's correct.

Q. Then I wonder if you could help us in relation to your second statement just briefly. If we go to that, it's 247/2, starting at page 6. If you see, there's a section there that starts:

"I would like to highlight the following three additional points."

And in fact, perhaps it starts a little higher up:

"It is important to clarify ... from Dr Squier and Dr Harding."

And then you go on and deal with the section. That section is very close to a section in Dr Herron's fourth statement -- just for reference purposes only, it's 224/4 at page 13 -- where he also goes to make comments on the evidence of Dr Squier and Dr Harding.

Can I ask: did the two of you discuss your views about that evidence before you completed these parts of your witness statements?

A. No, because Dr Squier's comments and Dr Harding's initial reports came to both of us, so we were both aware of the issues.

Q. Yes.

A. And we were both involved in the case, so we had similar issues.

Q. But you didn't discuss them?

A. We didn't discuss them formally in any way, but obviously we were each -- each of us were aware of the issues and we were aware of the issues which were raised by Dr Squier and Dr Harding.

Q. Thank you. Then I wonder if I could ask you for some

guidance on certain aspects of your CV. I'm not going to go through it in detail because we had your CV for the purposes of the Adam Strain hearing. It is to be found at 306-066-001.

I think that you became a consultant neuropathologist and head of the Regional Neuropathology Service in February 1988 -- and one sees that from 002 -- and in fact continued, so it would appear in that position, until December 2010; is that right?

A. No, there's a slight incorrection [sic] in there because I became -- I was appointed consultant neuropathologist in the February of 1988, but I took the headship of Regional Neuropathology Service in 1997, when Professor Dame Ingrid Allen retired. So I became the head of neuropathology in 1997, not in 1988.

Q. I understand. So you weren't head of the service at the time of Claire's death?

A. No.

Q. Can I ask you, though, if you weren't actually head of the service, what was your position in it?

A. Consultant neuropathologist.

Q. And how many consultants were there at the time of Claire's death?

A. Two, myself and Dame Ingrid Allen.

Q. And in terms of other trainees, can you recall roughly

how many you would have had at that time? Obviously there was Dr Herron, who was the registrar.

A. Neuropathology is a very specialised subject, so it's not like we have umpteen trainees like general histopathologists and it's a very long training in comparison to general histopathologists, so we have a dedicated senior registrar in neuropathology, which at the time was Dr Herron, and then we will have from time to time histopathology, general histopathologies [sic] training -- trainees rotating with us for their experience in neuropathology, which was a requirement of the College of Pathologists. So they would be able to have maybe one -- one, our own senior registrar, and one registrar occasionally rotating from general histopathology.

Q. But for consistency's, sake your full-time complement would be you, Professor Allen and Dr Herron?

A. That's correct.

Q. When you were giving evidence in Adam's case, one of the issues there was the extent to which you had been consulted over the slides that Dr Armour had prepared of Adam's brain. And I think your evidence at that stage was you couldn't remember, but if you had been involved, it would be simply on the basis that you had been shown certain slides for perhaps discussion purposes with

Dr Armour.

A. That's correct.

Q. As you know now, Dr Armour published a paper directly in relation to Adam's case in the Journal of Clinical Pathology in May 1997. Is that a journal that you would take or look at from time to time?

A. I was not even aware of the paper that Dr Armour had published the paper. And the Journal of Clinical Pathology is not one of the journals which we would be consulting from time to time because we would be very much specific to the neuropathology journals. But for certain generic issues, we might look into it for techniques and things like that. But that is not one of the journals which we will routinely consult. And I was not aware of the paper that Dr Armour had published.

Q. I understand. In your CV, on this page where we are, you say that you're also involved in supervising the post-mortem service with the trainees in neuropathology and then you say that the service takes two forms: one is day-to-day supervision in the mortuary and discussion of the case with the trainees, and some of your clinical colleagues who are involved; and the other is in the form of a weekly review. If you just pause there: even though you weren't actually head of the service at that time, is that still something that you

were doing in 1996?

A. That's correct.

Q. So that is a correct description of what you would have been doing at the time of Claire's autopsy?

A. Yes, that's correct.

Q. Then if I ask you about the day-to-day supervision with your trainees. How actually was the work that came into the department arranged or organised?

A. Well, it depends on whether you are dealing in that week for the autopsy service or you are dealing with the biopsy service.

Q. Let's confine ourselves to the autopsy service.

A. Well, what happens is, if I was dealing with the autopsy service that week, the senior registrar in neuropathology would usually ring up the mortuary or the mortuary people will inform us in the department that there is a case and the medical notes are there, so we will then go down and we will look at the medical notes and we will discuss with each other what is to be required to be done.

Q. So can I just ask you to be clear: does that mean that the mortuary request form goes to the mortuary staff?

A. It goes to the mortuary staff, yes.

Q. So that's the first point of contact?

A. That's the first point of contact.

Q. I understand. So they would have received the request for autopsy in relation to Claire and would have contacted Dr Herron, for example, as your senior registrar to let him know that we have got this in, there's a request for a brain-only autopsy.

A. That's correct. Then we go down and we look at the notes and look at the autopsy request form and we discuss the case. It depends then on the seniority of the registrar. For instance, Dr Herron at the time of this particular case was a very senior senior registrar, he was very close to completing his membership. So we would then -- then I think the other important thing is to know that neuropathology is a very small department -- it is only two consultants there and a registrar. So while we are dealing with the autopsy service, that doesn't mean that if there are urgent specimens or frozen sections coming from the theatre in the department, we will not be -- the consultant will not be to and fro between the autopsy room -- the mortuary and back to the lab.

THE CHAIRMAN: When you say "we will go down to the mortuary", do you mean you and Professor Allen and Dr Herron, all three of you?

A. No, no, it depends on who is the consultant who's looking after the autopsy service that week.

THE CHAIRMAN: So it's either you or Professor Allen?
A. Either me or Professor Allen, but that doesn't mean that if I am -- if I'm for the autopsy service and I'm going to go down with Dr Herron and I'm involved elsewhere, if there's an urgent specimen has come through into the lab, that doesn't mean that Dr Herron may not discuss the case with Professor Allen as well, because as I said, it's a very small department, a very small team, and all of us were aware of what was actually happening on that particular day.
MS ANYADIKE-DANES: [Inaudible: no microphone] by the sound of it. Is a case ever assigned to a consultant, even though the registrar would discuss it with the other consultant, but is there nominally a consultant who's assigned to a case?
A. It's actually assigned to a senior registrar and then the senior registrar can consult with the consultant, whoever is there, and I think it depends on, as I said, upon the seniority of the senior registrar. If the consultant feels that he's a fairly senior senior registrar who is able to, after discussion, manage, that's fine, and the consultant is always available or always is at hand to give advice or supervise as and when it is required.
Q. Yes. And given that your name seems to have been

associated more with this particular case than, say, Professor Allen's name, would that mean that you were the consultant primarily associated with Claire's autopsy?

A. I actually don't remember that, but it is quite possible that that may be the case.

Q. And given that although he is a very senior registrar, he's not yet a consultant. So does it not have to be a consultant's responsibility in some way, even in a formal sense?

A. Not necessarily. I mean, if -- senior registrars everywhere up and down the country do autopsies independently if they're fairly senior and very close to their membership exam. It also depends on the experience of the senior registrar, if they have performed similar autopsies in a number of cases, and Dr Herron being the only senior registrar in neuropathology, he would have dealt with all the autopsies coming through the department. So his experience is quite cumulative as against some of the general trainees who will maybe do -- you know, if they are trainees and if they attend autopsy cases, they will do like one case each, whereas if Dr Herron is only registrar and there are ten autopsies, Dr Herron will do ten cases. So his experience is much different than the

general trainee histopathologist in the department.
Q. So in terms of the pattern of it, the registrar is the person who goes down typically and looks at the medical notes and records so far as you are concerned as to what the practice was?
A. That's correct.
Q. So he would look at that and then there would be some sort of discussion, depending on how many of it he wants --
A. Yes.
Q. -- with the available consultant?
A. That's right.
Q. And the purpose of that discussion is what so far as you are concerned?
A. The purpose of the discussion is that, after having read through the autopsy notes, if there's any issues they wish to clarify or -- mostly it is regarding the technique of the autopsy and, for instance, specific for this case, as it's a brain-only autopsy, there will be issues like we remove the brain and what to look for when you actually open the skull and things like that and so on. And the detailed examination, how to go about it, about the fixation, about the rest of it, how we deal with it, so it's actually more related to the general technique of the autopsy rather than any other

issues at the time.

Q. Is it your understanding that it would be common, if the medical notes and records were there, to actually look at them as part of familiarising yourself with the case as opposed to just the autopsy request form?

A. That's correct.

Q. And is there any discussion, so far as you're aware, that happens between the pathologist -- whether it's the senior registrar or one of the consultants -- and the actual referring clinicians?

A. Well, it may happen. One of the things is that the clinical history or the summary, which actually comes down with the autopsy request form -- a pathologist looks at it and if it is not up to them actually ... It is very difficult for them to actually work out when they're looking at the clinical summary whether what has been supplied to them is totally, absolutely sufficient. So they look at the -- and the issues and the clinicians very correctly have actually picked up the important issues which they would want to be dealt with at the time of the autopsy. Sometimes there is informal discussion, you know, telephone discussion or whatever, with the clinicians if the pathologist feels that there's any issues which they need to clarify.

Very, very occasionally -- it depends on the

clinicians and all of us are actually very busy in what we are actually doing -- so the clinicians sometimes can come themselves to the mortuary and attend the autopsy, but that varies. That is not a permanent fixture that they always will come down. So there is a number of ways where the pathologist can actually communicate with the clinician in charge.

Q. The other thing that you mentioned in here is, apart from that sort of day-to-day meeting and discussion that goes on, which is presumably also part of training --

A. Yes.

Q. -- however senior the registrar is, you also then say the other form of supervision is weekly organ review.

A. That's correct.

Q. What was that?

A. That is the -- that actually happens more in neuropathology because the brain is quite often retained after the autopsy because it has to fix for a number of weeks for the pathologist to enable it to examine in more detail. So after a period of fixation -- and it's -- the process of fixation itself is not a static process, it is a very active, dynamic process in the sense that it's not that we fix an organ and it sits there. It is assessed every week to see what is the stage at which the organ is fixing.

Once the pathologist feels that the appropriate fixation has been achieved, then the case comes out for blocking and for detailed examination, first dissection of the brain, because up until that stage we have not actually looked at the brain internally, we've only done a macroscopic naked-eye examination of the external features of the brain, we've not looked at it internally in any way. So it's only after fixation. So that's what actually happens at the organ review session, that the brain is dissected, looked at in detail, internally, and then there are tissue sections taken for further histology.

Q. Okay. Then on the back of the autopsy request form, there is a place where -- I'm going to bring it to you in a minute -- where you can indicate for the referring clinician whether they can attend one of those reviews.

A. Yes.

Q. If I just take you to that, 090-054-184. If we pull that up. There you see, it says:

"Will you or a colleague be attending the review session at 1.45 on the day of the autopsy?"

Is that the same review session as you've been talking about just now?

A. That's correct.

Q. So that's a time when the pathologist has --

A. No, that's not the same, sorry. That's not the same session. That is the review session on the day of the autopsy.
Q. Yes, that's what I mean.
A. That is actually not directly relevant to neuropathology because we do not actually do any review on the day of the autopsy.
Q. So what's the purpose of that?
A. That is mostly for the general autopsies or if there are any findings in the -- because brain is not looked at on the day of the autopsy. So what is there for the clinician to see.
Q. So this is a form that is appropriate for all autopsies, but if you're doing a brain-only, that particular review isn't helpful because all you're going to do is take the brain out at that stage?
A. That's correct.
Q. And that's not something that a clinician can particularly participate in. They might be interested when you're looking at the dissections, but at that stage there's not very much that they can learn?
A. Yes. Well, occasionally, even if it is a brain-only autopsy, occasionally they are more than welcome to come if they can to come over and look at the brain with us externally. But the brain is actually not dissected

until several weeks later, so there's nothing for them to look at internally. So that session is not for the organ review session which we're talking about.

Q. So that's alerting them to when it is that you are going to actually take the brain out effectively, and then if they want to come to that they can?

A. Yes.

Q. Dr Herron said in his witness statement at 224/3, page 5, that there had previously been a tradition in the department to hold review sessions relating to autopsies, but that had not been the case for many years and he didn't believe that the review sessions took place in 1996, and also that he thought it was highly unlikely that, even if review sessions did exist at the time, that Claire's case would have been subject to review.

Then he goes on about the brain-only autopsy and I presume that that is referring to the point that you have just made.

A. That's correct.

Q. But in terms of generally speaking, can you comment on why he was of the view that review sessions were not actually happening in 1996?

A. Well, it was actually dependent on the pathologist and the clinician. I mean, if ... It wasn't a routine

practice that a review has to happen. But if there was -- if the pathologist or the clinician felt that there was a need for the review and also it related to the training of the registrars, both the pathology registrars, the neuropathology and the clinical registrars, because I think they would then come down along with their consultant in charge and they will review, take part in the review discussion. But it wasn't a common practice, it wasn't a regular practice.

Q. It wasn't regular to involve the clinicians in it?

A. That's right.

Q. But it could have afforded an opportunity to discuss in more detail with the clinicians the clinical aspects of the case?

A. Yes, it could have, but on the other hand, in this -- if you're talking about this particular case, I don't think that it would have gained any additional benefit because we were not looking at the organ at all at the time. So I'm not sure what additional information the clinician would have gained if they would have attended or if there was a review session.

Q. If the clinicians don't attend at that stage because not much is happening, if I can put it that way, do they get invited to a later stage when you're actually starting to look at the slides and can be expressing some views

as to what you're seeing?

A. They're invited for the organ review session which happens after several weeks, because that is the first time that we have the clinical history from the autopsy request form. We have the macroscopic or the naked-eye examination, autopsy findings of the brain, and now the brain is being dissected. So at that time, sometimes the clinicians -- it depends on the clinicians themselves, you see. They are informed regularly that this review session is going to happen on such-and-such a day and such-and-such week, and if they are able to come, you know, that's fine, but it depended upon the clinician, whether they were able to attend or not.

Q. So that might provide a more useful opportunity to discuss clinical findings because, at some point in time, there is going to be an attempt to correlate the clinical findings with what you see, what the pathologist sees?

A. I think it's a very difficult -- and I think we're talking about a very difficult territory, neuropathology, here. Because the findings -- let me put it this way. For instance, if we are dealing with something which is like a brain tumour, which is very obvious on the naked-eye examination, and you're dissecting the brain and you can actually see it, and

the clinician will be able to see it. But in the case with a naked eye, even when you're dissecting the brain, and there's not very much to see, it's only the histology which fine-tunes the pathology later on. So you can have a discussion with the clinician, they can have a look at it, but still there may not be anything to see even after we have dissected the brain internally. So it vary very much on a case to case basis depending on the type of case we're dealing with.

Q. Maybe I can give you an example. Let's say, for example, that one was looking to see if there was any evidence to explain developmental delay or something like that and you felt, microscopically, you had seen something, you might want to have some discussion as to the extent of the developmental delay that the child had or the severity of seizures that the child had if you thought you were seeing some evidence of scarring or something of that sort. That might inform you a little bit more to assist you in a correlation at some point. Would that be the sort of thing?

A. I think again developmental neuropathology is a very complex area because there are ... In developmental neuropathology, you have at one extreme very categorised clear-cut malformations which are so obvious on the naked-eye examination. On the other hand, you have

other extreme, which is very subtle abnormalities, which you will not pick up on the naked-eye examinations. So yes, you can look at the brain and naked-eye looking at it, even after internal examination, may appear all right, but it's only when you come to look at the histology under the microscope that you pick up these abnormalities. So it depends upon the kind of -- and I go back to the statement I'm making that it depends on the kind of case and the kind of malformation, the kind of neurodevelopmental abnormality and the kind of -- the nature of the abnormality that you would be able to see anything, even after when you have dissected the brain.

Q. Thank you. Then can I finally ask you, you also said at 004 of your CV, 306-066-004 -- it's quite dark, but it's just above the bit about the implication of the O'Hara report. Effectively, I think what you're saying there is that you were in charge of issues relating to organ retention and implementing the guidelines following the O'Hara report on organ retention.

A. Yes.

Q. If we leave aside the O'Hara report on organ retention and just deal with issues relating to organ retention. Was anything like that happening at the Royal in 1996?

A. In what way?

Q. Were you developing any guidelines, guidance, practices

in relation to organ retention at that stage?

A. Well, I think it is -- the guidelines, it's not for me to develop the guidelines in the sense that the guidelines were already there at the time from the college and the best practice guidelines for neuropathology was the best way to study the brain or neuropathology is by retaining and fixing the organ. So that guideline was already there in 1996/97 from the College of Pathologists.

Q. Sorry, I think maybe we're at cross-purposes. I thought what you were referring to in your CV were issues to do with how you retain tissues, how you inform families --

A. I don't think that those were clear-cut at the time.

Q. That's what I'm asking you. When you say that you were dealing with those issues, if I can put it that way, were you already starting -- not just you personally, but the department and within the hospital -- to give consideration to how those matters would be addressed in 1996? That's what I'm asking you.

A. I don't think that they were done in detail at that time because since the new guidelines came after the organ retention inquiry, then I think the consent form had changed and there were very detailed, elaborate information on the consent form, informing the issues about the organ retention and then obviously the

disposal and everything and so on. Those guidelines were not there at the time of 1996/97.

Q. So this statement in your CV didn't relate to anything that you were necessarily doing in 1996?

A. No, this is what I've said: following the organ retention inquiry.

Q. No, I was referring to the part above it, "As head of neuropathology", but I think we have your point.

Can I then ask you about your membership of the Department of Health sub-groups on aspects of archiving consent information for adult children and coroners' autopsies, which is found at 004:

"I am on the sub-group, which is steering the implementation process. This group has been established by the Department of Health, working on aspects of archiving, consent, information ... and also coroner's autopsies."

Was that a sub-group that was in existence in 1996?

A. No.

Q. Thank you. Were you involved in any way in that kind of aspect of work, archiving and so forth, in 1996?

A. I was involved along with Professor Allen on the issues that we kept a very detailed -- our own departmental record of what we were doing. And I think those records were very helpful to us because we could go back

a number of years to say, you know, we knew exactly what was happening to the tissues, and those records were actually quite detailed and elaborate. So we had the internal departmental records within the department at that time.

Q. Okay. Can I then ask you about your clinical work at 306-066-002? Just under "Neuropathology, clinical biopsies and post-mortems", you say that you were involved in the clinical and laboratory work in the department and that you took part in the ward rounds with clinical colleagues in neurology and neurosurgery.

A. Yes.

Q. Was that something that you did in 1996?

A. Yes.

Q. Those colleagues, for example, in terms of neurology, could that have involved Dr Webb?

A. Dr Webb at the time, if I could remember correctly, was a neurologist in the Royal.

Q. Yes, he was a paediatric neurologist.

A. So the practice at that time was that every Tuesday morning, there was a clinical neurosciences round. This involved all the neurologists, all the neurosurgeons, neuroradiologists, all sister sciences within the neurosciences group, including neuropathology. That used to happen every Tuesday morning, every week.

THE CHAIRMAN: Including the Children's Hospital?
A. The Children's Hospital was only the relevant clinicians. Put it this way: the paediatric neurologists were always there at the time, they were always there because they were part of the neurosciences group. But other clinicians, like the paediatricians, they would only come if they will bring a case or if there was a case or if there was a relevance of a case. It may be a neurological case, but if they felt that another clinician had relevance to the case, then they would come to the ...
MS ANYADIKE-DANES: Those Tuesday meetings, are they the same thing as a grand round?
A. That's correct.
Q. So in other words, Dr Webb, if he was there, who was a consultant paediatric neurologist, he would attend every Tuesday to those grand rounds?
A. Yes.
Q. And any other clinician whose case you were particularly interested in or presenting that related to them, they would know about it and would come if they were available to come?
A. Yes.
Q. And that was happening in 1996?
A. That's correct.

Q. Then finally to ask about accreditation. In your CV, you refer to -- I think it's on this page actually -- to the fact that the department had full CPA accreditation in 1996. You say:

"We have recently (April 2003) been visited by the CPA and await the outcome."

What was that? Was that a routine audit visit by the CPA?

A. Yes. That was Clinical Pathological Accreditation and this was a group of clinicians, senior technicians, neuropathologists, general pathologists, as the profile of your department is. They would come and they would visit and they will look at all aspects of the service, including health and safety, the clinical practice which exists, and any other issues which are there. But basically, they will look at in detail the running of the service, including the health and safety issues.

Q. How often did they do that?

A. It happens every, I think every three to five years, but it varies because I think there are so many departments to actually go through that it's ... It is not always possible to keep up to the timescale. But it usually happens about five years or so.

Q. And is that to sort of confirm or reaffirm your accreditation?

A. That's correct.
Q. What happened as a result of the one you were waiting for in April 2003?
A. I think the situation changed in 2003/2004, or maybe I think just before that, after Professor Allen retired, because I think there was slight reorganisation in the sense that the ... According to the need of the department, there was the ... Before we had histopathology, neuropathology, cytopathology in the Royal, and histopathology and cytopathology at the City Hospital. Neuropathology was always at the Royal. But I think -- I can't remember the exact date, but just around that time, the organisation and the things that we came under the umbrella of the tissue pathology and the cytology, which meant that the ... And this was purely from administrative point of view, nothing to do with the working practice. So there was no change in the working practice. But the tissue pathology came about, it still had the profile histopathology, neuropathology and cytology, the profiles were the same. So at that time, the organisation happened and the -- there were issues regarding -- and again I don't remember extremely correctly in detail, but there were issues to do with -- because this management structure had come, the management structure had changed, so this

management structure was very new. So I think they were still working their way through it, so what happened at that time was that I think we got partial accreditation around 2004.

Q. Do you know when you got full accreditation?

A. Um ...

Q. Maybe we can take that up with the DLS.

A. I'm not sure.

Q. Having accreditation --

A. Sorry, to go back, that is to do with entire tissue pathology, not neuropathology.

Q. Presumably that means you have to maintain certain standards.

A. Yes.

Q. That's one of the things they are looking at when they do their audit visit?

A. That's correct.

Q. And you yourself with involved with audits; isn't that right?

A. That's correct.

Q. When you audited, was part of what you were auditing the time taken to provide autopsy reports and so forth?

A. That's correct.

Q. Was that your responsibility to organise that?

A. That's correct.

Q. Were there any concerns about the time that it took to produce audit reports?
A. Well, neuropathology cases are always -- took longer than the general pathology cases because of the issues of the fixation of the brain and depending upon the complexity of the case. And I think one of the things it is very important to understand is that the audit and the turnaround time, which we looked at quite a bit in the audit, is a process; it's not a one-step thing. So the pathologist's involvement is a point because we are talking about the period of brain fixation, then the brain blocking, then the processing in the lab and then the slides going to the pathologist, the pathologist looking at the slides, and then the work coming back into the laboratory for further or additional work, and then eventually the preparation of the final report. So it is actually a process, it's not just, you know, like one point.
Q. It takes time?
A. It takes time.
Q. Just to confirm something -- I realise I'm not entirely clear when you were explaining it. When I was asking you about your work with the colleagues and you attended wards, we can see it in this part of your CV. Then you went on to describe the meeting where you all gathered

together, which was called a grand round.

A. Yes.

Q. Is a grand round distinct from what people who are more familiar with general medicine would understand as a ward round where you literally go round and look at the patients?

A. No, no. It used to happen in the ... Because ... I think it would not be right for a number of clinicians because if you're talking about neuropathologists, neurologists, neurosurgeons, the whole lot, to go round a patient in the ward because it would be very disruptive to the patient.

Q. Sorry, I just wanted to confirm. When you say that this involves taking part in the ward rounds, when you used words in the second line of that section under "neuropathology", do you literally mean ward rounds where you go around and see patients or does that ward round mean a grand round?

A. The ward round means a grand round. We don't go into the ward, individually round the wards.

Q. Thank you very much. Then although you weren't the head of the department at that stage, obviously you were the second most senior pathologist there. The extent to which you were aware of the guidelines -- you have mentioned them yourself just earlier in your evidence.

But the ones that we been looking at particularly are the 1991 guidance -- the report of the working party on autopsy and audit. Were you aware of that?

A. Yes.

Q. The 1993 guidelines for post-mortem reports. I think you said in your witness statement at 224/4, page 3, that you were aware of that one.

A. Yes.

Q. And the "Service specification for paediatric and perinatal histopathology", that is one from the Royal College of Pathologists of September 1995.

A. Yes.

Q. Were you aware of that?

A. Yes.

Q. The practice guidelines for necropsy time for action 1996?

A. Yes.

Q. And then there are guidelines on autopsy practice, which were issued by the Royal College in 2002, which to some extent brought matters up a little bit up-to-date since the 1993 guidelines.

A. Yes.

Q. Were you aware of those?

A. Yes.

Q. Was it any part of your role as a senior

neuropathologist in the department to disseminate those guidelines, make sure everybody in the department was aware of them or even to formulate your own local practice?

A. I think ... There were only three people in the department, the two consultants and the senior registrar. The consultants always -- would always disseminate the information to the trainees, including when the general trainees would come to rotate with us, then specific information about neuropathologists will be disseminated to them.

Then I think the -- you always have within the guidelines -- there's always a flexibility to cater for the local needs, for the regional needs. So I think that flexibility -- and in my mind I think it is very important and it says in the College of Pathologists' guidelines as well that they are guidelines, but they should be built in with an amount of flexibility to suit the regional needs.

Q. And did you develop your own practice? I know you say actually there were only three of us, but you had other trainees come and there were other people ancillary to the service, if I can put it that way, who assisted you so that you could do the work that you did. Did you have any practices that you developed that became

reduced to writing in any way or were communicated amongst all of those so everybody understood what are the standards that you require, how you wish to have things done? I don't mean you personally, but the service.

A. Yes. Yes, they were very clear-cut, detailed records for what we called at that time handbooks, handbooks for the registrars. There was a handbook for the senior registrar in neuropathology and also for the general histopathologists rotating within the department, which basically had all the guidelines from the College. So it was nothing new, but it was just a sort of paperwork which was put together as part of the College guidelines so that everybody, when they came into the department or they were rotating in the department, they could actually see what the guidelines were and what they were supposed to do and how the service was actually running.

Q. And where would that be placed, that handbook?

A. They should be in the department. We didn't keep them personally with us, but they would be -- should be in the department. They were nothing new, they were just the guidelines which were collectively taken from the College.

THE CHAIRMAN: Is this a file, doctor, with a 1993 guidelines and 1995 and so on?

A. No, it's not like that. It was just a one-off thing, and then if the guidelines for the -- changed from time to time, then the trainee would be made aware of the change.

MS ANYADIKE-DANES: So you were bringing those things together in a convenient reference place for them?

A. That's right.

Q. And if there was anything local that you particularly wanted to have done, that would go in there as well.

A. That would go in there as well.

Q. Thank you. And that's part of their training to be made aware that that is available?

A. Yes, it's just so that everything is in one place and they don't have to run around to find it for themselves.

Q. If we were trying to seek that, do you know what that's called to request it?

A. It used to be called at that time "Handbook for the senior registrar".

Q. Thank you very much.

A. But I'm not sure what they call it now.

Q. I just want to move on now to the actual process.

Earlier on, you helped us by saying where the autopsy request form would go and who usually would be the person to go and look at it and what would happen in relation to the clinical notes and records. If the

clinical notes and records were not attached, is that something that the pathologist would ask for?

A. Usually, the medical records, medical notes will come with the autopsy request form. So they were usually available there. Now, in this particular case I don't remember whether that happened or not, so I'm not sure whether the notes were present at that time or not.

Q. How important is it, do you think, to look at those notes and records?

A. I think if the clinical summary is fairly relevant to the case and relevant to what you are going to do, autopsy-wise, the notes -- the autopsy -- the clinical summary which comes with the autopsy request form or on [indistinct] is a very good, detailed snapshot of what has been in the medical records. And sometimes the medical records could actually be quite bulky, quite large, there may not be enough time to start going over each and every page. But as long as you can find relevant detailed information within the clinical summary which has been provided that, in most cases, is sufficient.

Q. But would it be -- I appreciate entirely what you say about how voluminous some of those notes and records might be, but if they're not of that character, would it be good practice to at least look at them?

A. Oh yes.

Q. Thank you. In this case, if the medical notes and records had been provided and if a person had had an opportunity to look at them, there are some things that would be revealed. For example, you might have appreciated that there had been no CT scan until the child's collapse, so you weren't able to see the development of the cerebral oedema. There had been no EEG so, to that extent, and in that way, the differential diagnosis of status epilepticus had not been confirmed in that way. You might be able to see that there had been quite a bit of anticonvulsant medication prescribed to which the child didn't seem to respond, which might have been relevant to know. Also, you would have been able to see what her first serum sodium level was, you would have known the last one taken was 121 because that's on the autopsy request form, but you would have seen what the starting one was. And although in the autopsy request form it refers to the fluids having been restricted, you might have appreciated, if you looked at the fluid balance sheet, that actually in total the fluids weren't restricted at a significant point.

So you might have been able to pick up that kind of information, which is not on the clinical summary.

Would it have been relevant at all for you to know any of those things?

A. Well, I think the fluid restriction and all the fluid management, I think that is outside the expertise of the pathologist. And it is not up to them to make that judgment. It's the clinicians who are actually looking after the electrolyte things of that aspect of the case. And as regards the CT and EEG, there may or may not be -- apart from the cerebral oedema which was picked up in the CT, there may or may not be other changes which were directly relevant to the case at the time.

Q. Yes. I suppose why I'm asking you that is, of the four clinical problems that have been indicated in the autopsy request form, one of them is SIADH -- or inappropriate ADH, actually, is how it's referred to there -- which is one explanation for the low sodium. But if you had been able to appreciate that maybe the fluids hadn't been restricted and if you had seen the reference in the note to one of the senior house officers, who queries whether there might not have been fluid overload, actually, which is what's led to the hyponatraemia. Then although that may be not something that you are looking at microscopically, nonetheless you're being asked to express a view on those four problems and it might, might it not, have assisted you

in making some comment?

A. Well, again, I think SIADH, fluid restriction and hyponatraemia, they do not show any specific structural features in the brain. So there's no way a pathologist, by looking at the brain, or even after histology, can say, "Yes, this is hyponatraemia," or, "This is inappropriate ADH", because there are no specific changes. Cerebral oedema can be due to -- the causes of cerebral oedema are multi -- there are several causes of cerebral oedema, so it's not specific to hyponatraemia or inappropriate ADH. And as far as the clinical issues about the fluid management and electrolytes are concerned, that is not for the pathologist. That is outside our expertise to judge on that, on that aspect of the case.

Q. So of the four things that were identified on the autopsy request form as problems, the cerebral oedema is one that was already known --

A. Yes.

Q. -- and was provided to you because there had been a CT scan that showed that?

A. Yes.

Q. The status epilepticus is not something that you can identify as a pathologist?

A. No.

Q. It either has been confirmed clinically or not, in one or other ways.
A. Mm-hm.
Q. The SIADH is also not something that you can really assist with --
A. Mm-hm.
Q. -- as a pathologist? And then the final thing was there was a query over viral encephalitis. That is something you could see. Am I right in saying of those four things there's only one thing you could be expected to, on the surface anyway, have really contributed a view to?
A. That was cerebral oedema.
Q. Yes.
A. Yes.
Q. Well, and the viral encephalitis.
A. I don't think you can actually macroscopically -- naked eye, you can ... by looking at the brain you can say that there is viral encephalitis. It's actually with the detailed histology later on.
Q. That's what I mean. When you look at it from the slides, then you can see how the cells are responding, whether there's a sufficient pattern of inflammation, inflammatory response, and so forth --
A. Yes.

Q. -- you could give some guidance as to whether you thought that was consistent with an encephalitis.
A. That's correct.
Q. In terms of the other three problems, other than the cerebral oedema and the degree of it, which was shown on the CT scan, are you saying that there's not much more that you could contribute?
A. No, no.
Q. In terms of things that weren't recorded on that autopsy request form, there was some other medication that was identified there. One therapy was not, which was midazolam. It's not recorded on there the dose that was administered to the child. If you had appreciated that the child had received a significant overdose of the phenytoin and the midazolam, would that have been something that might have caused you some concern?
A. Again, that is outside my expertise, commenting on the kind of medication which was administered.
Q. No, sorry, I don't mean it from that point of view. Every doctor has their own duties and responsibilities as to whether they should refer a death to the coroner. If you had appreciated that there was an overdose of that medication, would that have caused you any concern? Would you have wanted to discuss that with the clinicians?

A. Certainly in the clinical summary, there was no concern for the pathologist looking at the clinical summary that there was any issue like that. I think as far as reporting to the coroner, it's actually the clinician who is familiar with all the concerns.
Q. Yes, that's not quite my question. I said if you had learnt that, would that have caused you a concern, would you have wanted to speak to the clinicians about that?
A. Well, I ... I don't think that the ... I said that before also, that I don't think the pathologist would be involved in any way or would know. It would be outside their expertise to deal with the issues which are related to the kind of medication or the drugs which have been administered to the patient.
Q. The reason I ask you that is that I had put a similar question to Dr Herron and Dr Herron seemed to have a clear view that if he had appreciated there had been an overdose of medication, then he would have wanted to discuss that with his consultant, you, and his view was -- I don't mean just you, Professor Allen, if Professor Allen were there -- and, subject to what his consultant said, he thought that would be a matter for the coroner. And he also said -- and I'm going to ask you if you would have done the same thing, that he has in the past started what started off as a consent

autopsy and he had his concerns and that autopsy or that death was reported to the coroner. Is that something you've ever done?

A. Yes. I mean, if the issues are clearly made out that there has been any doubt or any evidence that there might have been such a case, surely the consultant will have issues -- will raise concern. If the issue of the overdose was raised or it was clearly spelt out that that was the case and if the consultant had appreciated it at the time, certainly there will be concern, and the matter will be raised as a point of concern with the clinician in charge of the case.

Q. You say you yourself have referred deaths to the coroner. In what circumstances have you done that?

A. I don't think I've referred deaths to the coroner. Well, I'm not -- it hasn't come across in my practice of autopsy that I've dealt with an overdose in which I was concerned. But it was simply a case of a head injury and I was concerned that I -- we discussed it with the clinicians and we wondered whether this should be a coroner's case rather than the state hospital autopsy because we were concerned, the pathologist looking at the clinical summary, we were a bit concerned that this may not be a straightforward head injury. So we raised this concern with the clinicians and once we raised the

concern with the clinicians they felt, yes, maybe it would be safer to do it that way and to refer it to the coroner. So pathologists will not directly refer to the coroner, but they will discuss with the clinician any concern which they may have at the time of starting the autopsy and then the clinicians will raise it with the coroner.

Q. Yes. And that could arise either because you see something in the summary, as you have just said, which you're not so sure about, or if you have an opportunity to look at the medical notes and records maybe you see something there that gives rise to something you'd like to raise with the clinicians?

A. Yes.

Q. It could arise in that way?

A. Yes.

THE CHAIRMAN: Doctor, maybe this doesn't actually arise in practice, but do you not have your own independent duty to refer a death to the coroner if you come across something during the course of your investigation of a child's death such as Claire's?

A. Well, we would discuss it first with the clinicians. That would be our first --

THE CHAIRMAN: And that usually sorts it out?

A. -- interface. If we deal that, after discussing with

the clinicians it has -- and most of the times, I must say, it hasn't actually arisen in my practice that if I had a concern about something and I frankly discussed it with the clinicians, they would not report it to the coroner.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Can I ask you, in 1996, what was your understanding of the extent to which hyponatraemia could lead to cerebral oedema?

A. Hyponatraemia ... Any metabolic disorder can cause cerebral oedema to a certain extent and hyponatraemia is one of the causes. It is not the only cause.

Q. No, I understand.

A. Even looking at the brain and if you identified that there is cerebral oedema, you could still not say that it is due to hyponatraemia.

Q. No, I'm simply benchmarking your understanding of the process.

A. Yes, hyponatraemia is one of the causes of cerebral oedema.

Q. And to what extent were you aware that dilutional hyponatraemia could do that?

A. I am not ... I'm not aware of the ... I don't have ... Again, it is outside my expertise to comment on the dilutional hyponatraemia.

Q. Just so that I get it right, you were aware that hyponatraemia could do that?
A. Yes.
Q. Well, hyponatraemia is simply --
A. Dilutional hyponatraemia is also a hyponatraemia.
Q. Exactly.
A. What I'm saying is that hyponatraemia, no matter whatever cause it is, whether it is inappropriate ADH or dilutional, can cause cerebral oedema.
Q. And you would have known that in 1996?
A. I would have known that, yes.
Q. Would you have expected your trainees to know that or your registrar, for example?
A. I think if the case comes and if the trainee is there at the time doing the autopsy, certainly the trainee, if they're not aware, the consultant would, when they're discussing the case with them, will make them aware of the issue.
Q. I'm actually trying to see where the stage of knowledge has got to, which is obviously evolving and growing. You were involved in a teaching capacity, not just of your own trainees, but also at the university. At that time in 1996, is that something that you would expect registrars or trainees coming into the department to appreciate?

A. I think it's -- they would know, or should know, as part of their training the causes of cerebral oedema, not just hyponatraemia per se. But when you're learning about neuropathology or you're learning about brain swelling or cerebral oedema, hyponatraemia is one of the causes of cerebral oedema, so they would be aware of hyponatraemia as one of the causes of cerebral oedema.
Q. Thank you. Can I move on to discussions with the clinicians before the post-mortem? Dr MacFaul, who's an expert for the inquiry, has said that there's no record -- we don't need to pull it up, but the reference is 238-002-063 -- that there was any discussion that took place between the consultant responsible, so Dr Steen or Dr Webb as the case may be, with the pathologist, either before or after the report. And Dr Squier, who's also an expert for the inquiry, has said in her report at 236-007-010, that a meeting between the pathologists and the clinicians, either before or after the autopsy report was finalised, would have been best practice. Do you accept that that can be a useful thing to do, to have some discussion between the pathologist and the clinicians?
A. Yes, it is. It did happen. I mean, the autopsy report itself had a commentary at the end with a clinicopathological correlation. In the paediatric

service, the cases are usually discussed -- all deaths are usually discussed at the paediatric mortality meeting and then the third place of a clinicopathological correlation and discussion with the clinicians was at the time of the CPC with the neurosciences on Tuesday morning. So there were three separate occasions on which the case would have been discussed or -- as a clinicopathological correlation with the clinician.

Q. I haven't got to the clinicopathological correlation yet. At the outset, is that something that you think would be useful to do if you had the opportunity to do it?

A. Yes.

Q. And is Claire's the kind of case which might be useful to do that given that, on the face of it, the contribution that your service might be able to make to assisting the clinicians might actually be quite limited?

A. Yes.

Q. And that would be worth, even if it's only to manage expectations, having that discussion?

A. Yes.

Q. Thank you. Can I just --

THE CHAIRMAN: Sorry, let's just confirm that. Do you

remember whether there were any discussions with Dr Steen for --

A. I don't remember the individual names, but I know that there was -- the case was definitely for the neurosciences ward rounds and a list of the cases goes to all the relevant clinicians, which means that apart from the usual neurologists, neurosurgeons who were there at the time, and the paediatric neurologists, the other relevant clinicians who are involved with the care of the patient, they're informed that the case is going to be discussed. But I do not recall and I do not remember whether the relevant clinician in this particular case attended or not. That I can't recall.

THE CHAIRMAN: Do you remember anything in particular about Claire's case from 1996 or 1997?

A. In what ...

THE CHAIRMAN: Well, do you remember being involved in the investigation of Claire's death in your service? Do you remember any of the work that you did in producing this autopsy report?

A. Well, yes, we reported the -- we looked at the case and we did the detailed histology and the detailed examination, so we were involved in the preparation of the report.

THE CHAIRMAN: Yes. Sorry, is that something that you

remember because you have the documents in front of you which show it or is it something that you have a separate memory of?

A. I think it was in 1996/97, so I remember the case as one of the cases which came through the service and we provided a full report on the case.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I want to ask you a little bit about the limitation on the post-mortem to brain-only. The autopsy request form came to you like that. That was the restriction that had been placed on it. And I think in one of your witness statements you say there's no explanation of why that restriction was there, but that was the restriction placed on it, so that was the extent of your consent, if I can put it that way.

A. Mm-hm.

Q. In Dr Webb's witness statement, 138/1 at page 91, he says:

"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."

But he doesn't believe he was involved in the discussion.

The expert Dr Squier was asked that. Her view was:

"In the case of a child who had died suddenly with no clear clinical diagnosis, I would have expected a full autopsy."

And then she goes on to say that she would have expected a paediatric pathologist to be consulted or involved.

She also says that -- she queries whether it was in the circumstances appropriate to restrict the autopsy to brain-only when a systemic infection was suspected as the cause of Claire's illness on admission.

I wonder if I could ask you whether you think it might have been more appropriate to have done a full autopsy, and if I just give you that little bit about the reference that Dr Squier talks about, the child dying suddenly. From your point of view, looking at the autopsy request form -- there's an error in it actually, but it would have appeared that she was admitted some time on the 22nd, which was the Tuesday, 22 October, and suffered her respiratory collapse at 3 o'clock on the following morning, which would be a very short time indeed. If you're looking at that and thinking about the query over the viral encephalitis and the general presentation and information you've got in your summary, would it have occurred to you that this is a case that perhaps could have benefited from a full autopsy?

A. I think in this particular case, according to the clinical history provided and the clinical workup of the case, it was quite obviously that the disease, the bulk of the disease, was in the brain. Therefore, in my mind, at the time, and it was a consented autopsy -- and it was clear-cut that it was a consented autopsy at the time. It's not unusual to find such cases limited to an organ.

Q. Yes.

A. And there have been cases in the past when the disease is restricted, say for instance to the heart or the lung, that it's only a heart-only or lung-only autopsy, so it's not unusual to have the autopsy restricted to that particular organ where the bulk of the disease may well be.

Q. Yes.

A. It seemed from the report -- and also the clinicians were able to have the death certificate that they were fairly happy enough with the course of events, what actually transpired, that the ... Then of course, with the discussion with the family and so on, then they were happy enough for the case to be limited autopsy, restricted to the brain. And looking at the summary, it seemed that the most part of the disease was restricted to the brain. So therefore, it is not unusual to have

a limited autopsy in those kinds of cases.

Q. Yes. When Dr Herron was giving evidence at the inquest -- and I appreciate you didn't attend that -- the reference is 090-003-005, he said:

"As this was a brain-only autopsy, it is not possible to comment on other systemic pathology."

Sorry, it's actually in your report. I beg your pardon.

A. Yes.

Q. Is that indicating that we might have been able to say something else if there had been full autopsy, but we didn't do a full autopsy, so this is all we can say?

A. I think we're talking here mostly from the point of inflammation and infection which we thought we found in the brain. So we wouldn't have actually found very much else in any of the other organs.

Q. It's just that I'm wondering about the way --

A. From the point -- what we are saying in the comment is that it would not be appropriate for us to comment on what went on or what was the degree of infection/inflammation in the other organ, if there was at the time of death. Because sometimes in these cases, towards the terminal stage or by the time the patient dies, the disease is very often restricted to the brain, even though it may have started in the peripheral

organs. So you can never, even if you did a full autopsy, never substantiate that that's where the disease may have actually started.

Q. Yes.

A. But we cannot say that if we have done brain-only autopsy that there was -- and if the other organs ... If it is restricted to brain, that the -- whether the infection at the time of the autopsy or at the time of death was present in the other organs or not.

Q. That's really the point that I'm at. If you had had the opportunity to look at the other organs or a pathologist had had an opportunity to look at the other organs, whether they might have been able to given a better explanation of whether there was indeed present any kind of viral infection at all, and one of the reasons I ask you that is because I note that in the comment it says that it was a "low-grade sub-acute meningoencephalitis". And Dr Herron, when he gave evidence yesterday, said if he was giving it on a scale to 0 to 10, he would have it maybe at 1 to 2, and he conceded in one of his witness statements it was possible that it actually wasn't there, but that's what he saw and that was how he explained what he saw.

So given that what was happening in terms of any kind of inflammatory effect seemed to be of a very low

order, and yet the child deteriorated and died relatively quickly, might it not have helped your analysis or somebody's analysis to look at what had happened in the other major organs?

A. I think the ... Again, I think if there was a low-grade inflammation in the brain, I'm not sure how severe or how mild or moderate it would have been in the other organs or how well it would have been appreciated even if you do look at the thing, especially looking at the gastrointestinal tract and so on, which is very difficult to assess in autopsy tissues because of the autolysis which can take part in the gut. So it is very difficult to actually say that, what degree of inflammation or infection might have been present because histologically it is very difficult to assess.

Quite often terminally, the patient may have a terminal pneumonia in the lungs which is so non-specific, but it is -- I am not sure what it would have added eventually to the autopsy report.

Q. I suppose the only point is that we're not sure because there wasn't that availability. And if the family's primary concern was actually understanding what had happened to their child -- and so it's not as in some cases where the family actually are very concerned to ensure that any investigation is kept to the minimum.

If you don't have a family like that, then if there is anything to be gained at all to explain what was happening, is there any reason why you simply wouldn't do a full autopsy?

A. No, I think if the clinician has felt that it was -- that the full autopsy was required and all the issues they need to actually look at, but the pathologist is looking from the point of view simply from the nature of the consent. Was the consent given to the brain-only autopsy? Where is the bulk of the disease? And whether that is going to give us an appropriate cause of death.

Q. Yes.

A. That would have been sufficient for the pathologist at the time.

Q. Is there ever any discussion between the clinicians and the pathologists about what the most appropriate form of autopsy might be?

A. Not in 1993, 1995, 1996. But I think after the new Human Tissue Act and so on came through and where the consent and all those things were discussed, I think still the consent is still taken by the clinicians --

Q. Sorry, I mean before consent. Is there any discussion before the clinician actually goes to the family and discusses it so that the clinician maybe --

A. Not at that time.

Q. Would that happen now?
A. That would occasionally sometimes happen now, yes. I have been involved myself in occasional cases where the clinicians have discussed with us that such-and-such is the case and would do you think would be the -- should be the nature of the autopsy. It happens now.
Q. On the basis of that information so they can inform the families better?
A. Yes.
Q. Thank you. Then if I can move on to the actual conduct of the autopsy itself. But starting with the purpose of the autopsy. You said in your witness statement -- and this perhaps is worth looking at, 247/1, page 4. It's the answer to question 4:

"Describe the purpose of Claire's autopsy."

You say that the purpose of the autopsy was to identify the cause of death.
A. Mm-hm.
Q. And then you go on to say in answer to 5(a):

"Dr Herron was part of the team carrying out the autopsy and examined the brain in detail for the purpose of identifying the cause of death and the subsequent autopsy report."
A. Mm-hm.
Q. Dr Herron has a slightly different view of what the

purpose was. That's in his witness statement at 224/1, page 7. He says:

"The autopsy was done to address the presence or absence of status epilepticus and encephalitis."

So how does that compare? Because your statement seems to be quite straightforward and clear: we're trying to identify what the cause of death is.

Dr Herron has a slightly different view.

A. It's not such a different view. We're looking at the same points and the same disease process. What I mean by my statement is the cause of death was actually quite clearly established clinically, which was cerebral oedema. So what I was trying to explain in my statement was whether we could find a structural cause for the cerebral oedema because even with a CT scan and even during the clinical management. Sometimes it is not possible to actually say what was the cause of cerebral oedema. And to make sure that there's no other structural cause other than infection, like a tumour or a haemorrhage or stroke or whatever. So I think that's what I mean by saying to identify the cause of death means the cause of death was clear-cut here, cerebral oedema. So could we identify a cause other than infection or inflammation, such as a tumour or something like that.

Q. So you have a broader based enquiry. You know what the end result is; the end result was this cerebral oedema and you're looking at the brain to see if you can find some explanation for how that --

A. -- how that cerebral oedema developed --

Q. -- cerebral oedema developed in that way?

A. Yes.

Q. And it might be something to do with encephalitis or it might be something to do with something else?

A. That's correct.

Q. In relation to Dr Herron's view that the autopsy was done to address the presence or absence of status epilepticus, from what I understood you to say earlier, it couldn't do that because it was never going to assist with establishing status epilepticus.

A. No, because there are no specific changes related to status epilepticus that you can look at under the microscope and you can actually say that it is status epilepticus. But what you could actually look at in the thing -- whether if the status epilepticus is related to another cause which you can actually identify in the brain, like a tumour or something else. So I think the pathologist is trying to find a cause for cerebral oedema.

Q. I understand from what you said, that's very clear. The

other thing that I want to ask you is: in the autopsy request form there's reference to the child having a mental handicap.

A. Yes.

Q. When the evidence from Dr Steen -- although it's not accepted by the parents. Her evidence is that one of the things that she had told them when she was explaining about the brain-only autopsy is a benefit to that would be that they might gain some understanding of the reasons for their daughter's developmental delay. Nobody in particular had suggested that her developmental delay had given rise in a causal way to her cerebral oedema, but it was being said as something that might be discovered and that might be of some assistance for them to know. When you are looking for the cause of the cerebral oedema, which is your target, to what extent are you also looking for something like that, or would you have to be told, "We also want you to see if you can explain that"?

A. No, I think as a pathologist, when you're looking at the brain, you're looking at the brain as a whole, as to what other things may be present apart from the cause of the cerebral oedema. And as you say very correctly, the learning disability may not produce a lesion in the brain which is evident on the naked-eye examination or

macroscopically or the changes could be so subtle. The reason we say that is because there are some malformations -- and I'm talking about real obvious malformations -- in the brain, which may have a genetic implication. So the purpose of looking at the brain: can you identify a cause or a -- see the malformation in the brain, which may have caused learning disability, which may caused -- have a genetic implication, which means there might be implication for other family members.

So when the pathologist is looking at it, the pathologist is looking at it as a whole not just holding on to the cerebral oedema.

THE CHAIRMAN: Did you look at that?

A. Yes, I did.

THE CHAIRMAN: Right. Is that referred to in the report at all?

A. Um ... I think it is referred to in the histology.

MS ANYADIKE-DANES: Why don't we pull up the two pages side by side? 090-003-004, 090-003-005.

A. Yes.

Q. If we can have a look at that and see if there's anything that identifies that kind of evidence.

A. I think I've said that under two headings in the histology, "Cortex and white matter":

"In the deep white matter, focal collections of neurones are present, arranged in a rather haphazard manner."

And then we have also said under "Periventricular grey matter, hypothalamus and mammillary body":

"There are focal collections of neuroblasts in the subependymal zone, suggestive of a migration problem."

Q. If I'm right in understanding you, that's your evidence that leads you under the commentary section to where you say "neuronal migrational defect"?

A. I think what I have said in the commentary sections may be that that -- that may be one of the causes, but --

Q. But to the extent that there's evidence for it, that's where you're expressing it?

A. Yes.

Q. And the effect of that would be?

A. Sorry?

Q. What would be the effect of that?

A. Effect of what?

Q. Well, one of the things that you were looking at is because you've been told on the autopsy request form that this child had a mental handicap, as you understand it. And you said you were looking at the brain in the round to see what explanation you could provide and also whether any of that could, in any way, have predisposed

her or led to the cerebral oedema.

A. Yes.

Q. So where is the connection between your end point, which is the cerebral oedema or an explanation of the mental handicap, and this evidence that you have described here?

A. Cerebral oedema is not related to the neuronal migrational disorder because that doesn't cause cerebral oedema per se. And also, we were looking for whether there was a very obvious malformation, and in the absence of that, what we are relating is that the subtle change which we found -- abnormally placed neuroblasts in the deep white matter -- whether that was related, to some extent, to the learning disability, which the child had.

Q. Are you able to do that or is that something that you would actually -- would have prompted some discussion between you and the clinicians?

A. Well, I think the reason we have said that ... I'm not able to say that -- the changes which were present were so subtle, whether they definitely caused learning disability or not. But that is something, a finding which we had observed under the microscope, so we recorded it in the autopsy report, and we wondered how much of that was related to actual learning disability.

Q. I understand that. I'm just trying to see where it is the clinician would be able to interpret that. If the clinician says, "One of the things I wanted you to look at is to see whether there was any evidence that could help explain the child's developmental delay," and back comes your report, which refers to a neuronal migrational defect, how does the paediatric clinician understand that so that they're then in a position to say anything to the family?

A. I think they should have some indication of that if there is a neuronal migrational disorder, even though it is very subtle, but it is abnormal and it is there, could this in some way be related to the learning disability that the child had? So they should be able to connect that with the --

Q. Or is that -- that's why I was asking you whether that's the sort of thing that there might be a discussion about. The end product of that discussion might be: actually we probably need to take that to a specialist, if you really want to assist the family in understanding that, to know whether that level of neurone migrational defect could account for the child's presentation.

A. Yes because the case was discussed in one of the grand rounds so those points would have been brought up at

that time.
Q. Yes, we are going to come to that.
MR FORTUNE: Can I assist? Dr Steen in fact would accept that on reading the paragraphs under "Histology" and "Comment" that what Dr Steen would understand is that the pathologist, the neuropathologist, had found a possible defect in the development of Claire.
THE CHAIRMAN: That's what she wrote to the GP about, isn't it?
MR FORTUNE: Sir, I was merely going on the line of questioning that my learned friend is pursuing now.
THE CHAIRMAN: But that explains why it is in the letter to the GP.
MR FORTUNE: Yes, but to assist this line of questioning, I make that concession.
THE CHAIRMAN: Yes.
MS ANYADIKE-DANES: Thank you. I was going to go on to another point. I'm wondering about the time.
THE CHAIRMAN: Doctor, we'll give the stenographer a break for ten minutes. Thank you.
(11.05 am)
(A short break)
(11.17 am)
MS ANYADIKE-DANES: Dr Mirakhur, before I ask you about the stages in the autopsy and how it was actually conducted,

I wonder if I could ask you about who did what, so the respective roles of yourself and Dr Herron. You have in your witness statement, 247/1, page 6 -- and I think it's in answer to question 8(a) and (e). You refer to it as being a team effort.

A. Mm-hm.

Q. If you see, certainly in relation to (e) -- if you see the findings ... When you're asked specifically which findings in the autopsy are either yours or Dr Herron's or anyone else's, you say:

"Dr Herron and I reported jointly."

Then in relation to (a), when you're asked about being the author of the report, you say that:

"It wasn't usual to put the consultant's name if the autopsy was carried out by a person with the status of a senior registrar. I supervised Dr Herron as part of the team."

So given that you're working as a team, who does what part of the work?

A. I think -- well, the consultant is supervising throughout the case, but is actually technically doing the autopsy, which is usually done by a senior registrar if it is of a sufficient senior status. Then the autopsy findings are then discussed with the clinicians. Sorry, with the supervising consultant, the naked-eye

examination. And the histology, when we block the organ -- at the organ review time, when we're blocking the brain and looking at the brain in detailed examination internally, both the senior registrar and consultant are present at that time. And then when we are doing the histology -- and this is part of the training thing as well -- that a histology and the histology is being supervised and being looked at by the consultant and the senior registrar jointly together. It's a double-headed microscope and both of them are sitting and looking at the histology together.

Q. Just so that we're clear about that, Dr Herron says in his witness statement at 224/4, page 10:

"There's no evidence that I had any involvement in the interpretation of the histology ..."

Which I think is what you were just talking about as part of the training exercise:

"... the drafting of the post-mortem report or in the conclusions made within the report in 1997."

Then he goes on to say:

"The brain description is mine, but there is no evidence that any of the rest of the report is mine."

So given that he puts it in that way, can you help us with actually who was doing what? Do you accept that that's how it worked?

A. I think it's not ... In my mind -- and I appreciate Dr Herron may have his own interpretation to it.

Q. Of course.

A. But in my mind, the way it actually works is that there's a case which comes for autopsy, the clinical notes and the initial point is when the registrar goes down and looks at the clinical notes, at the clinical summary, discusses with the supervising consultants, the consultant then comes down and looks at the notes and looks at the case. Then the consultant is toing and froing in between the department. If the senior registrar is of such senior status, the consultant leads for the senior registrar to do the autopsy and with the statement that if any point of the autopsy, when he's doing it, he feels that he has to consult the consultant again, the consultant will come down again and look at the case again with him.

Then the case goes -- the autopsy is completed, the brain fixes, and the case goes for organ review where the brain is looked at in detailed examination and the further tissue blocks are taken for histology. Both the senior registrar and the consultant are present there. Then the case comes for histology to reporting and then the senior registrar and the consultant are looking at the histology together. The final report obviously has

to be the interpretation of the consultant because he's the supervising consultant. The senior registrar is still under training, so the final commentary has to be the consultant's.

Q. Okay.

A. But both are involved in the process.

Q. Throughout the process?

A. Throughout the process.

Q. So if I understand you, actually the removal of the brain, that is something that a pathologist of sufficient seniority might do all by themselves without the consultant being there?

A. That's correct.

Q. And that initial examination of what's there and the cavity and so forth?

A. Yes.

Q. And that is then put in for fixing?

A. Yes.

Q. It may carry on being the senior pathologist if the registrar is senior enough to look from time to time and to see whether the brain has reached a stage --

A. Yes.

Q. -- where it can be cut, if I can put it that way?

A. Yes.

Q. And then if that pathologist forms that view and the

brain is going to be cut, that's a point where the two of you might be there?

A. Yes.

Q. Because you might want to discuss where you're going --

A. I think it's not just might be there.

Q. Will be there?

A. Because the senior registrar does not look at -- or doesn't do, conduct the internal detailed examination when he or she may still be under training, without the consultant being present there.

Q. So you would have to be there?

A. Yes.

Q. When the decision is being made as to where the tissue is going to be taken from and when that actually happens?

A. That's correct.

Q. And then that tissue goes off, it gets made into slides?

A. Yes.

Q. And those come back and then there's another opportunity when you will be there or the consultant will be there with the senior registrar to actually look at those slides under the microscope. That's the histology part?

A. That's correct.

Q. And to discuss what you are both seeing?

A. Yes.

Q. And then there's the actual writing up and although it's the report over which the consultant stands, it is informed by the discussion and the work to which the senior registrar has contributed?
A. That's correct. I think the final interpretation of the report has to be the consultant's --
Q. Yes.
A. -- in discussion with the senior registrar.
Q. Okay. Then if you are there when the routine blocks are going to be taken -- sorry, can I ask you: do you recall being there?
A. Yes, I do.
Q. Was there a discussion as to where you wanted the tissue to be taken from?
A. Yes.
Q. Is it something that's fairly standard or does it rather depend on the details of Claire's case where you decided you wanted that tissue to be taken from?
A. No, it is fairly standard that the consultant was there.
Q. Fairly standard?
A. Yes.
Q. So that happens and the tissue blocks are taken. Then the slides are made up and they come back. Is it you or in discussion with the registrar what stains are going to be applied to those slides?

A. Yes. We discuss it together as to what stains are going to be applied. Well, the initial staining is always the H&E, which is what the pathologist calls the screening staining. If we pick up any abnormalities with the initial H&E staining, then we would request for further additional stains to be carried out.
Q. Yes. And at that time, when you're discussing the blocks that you're going to take and deciding what stains subsequently you might apply thereafter, is that when photographs are taken of the brain?
A. The photographs can be taken at the stage when we are actually doing the organ review, when we are dissecting the brain, or the photographs can be taken at the time of the discussion or looking at the histology. So they can happen in both places.
Q. The only photographs we've actually seen is a photograph of a sort of slice through of which there are two --
A. The coronal sections?
Q. Yes. And then there are photographs of the slides --
A. -- of the histology --
Q. -- of the histology, so I think there's nine of those and one of the section.
A. Yes.
Q. There are no photographs of the whole brain; is that usual?

A. No, because there was nothing probably to see on the whole brain.
Q. I understand.
A. So there was no point in photographing if there was nothing to see.
Q. Not even to demonstrate pictorially the level of oedema, to see the extent to which there was effacement and so forth? Would that not have been worth recording?
A. With due respect, you will not see the effacement of the ventricles by looking at the whole brain. It is only when you dissect it and you look at the internal cavities and you assess the effacement.
Q. It may be I'm using the terminology incorrectly.
A. You look at the herniations, yes, on the -- looking at the whole brain.
Q. I recall that when Dr Armour was carrying out the examination of Adam's brain, for example, she took a number of photographs of the whole brain to demonstrate the extent to which there was, I would call it a lack of grooving, if I can call it that way, and that was part of her way of explaining how oedematous the brain was before she got into the internal examination at all. Is that something that you would do?
A. Yes, we would do, but it's not usual that we'll always

do because I think the coronal sections -- and if there are herniations and if there's oedema and if there's effacement of the ventricles, you can assess that or you can photograph that by slicing the brain and looking at it.

Q. I understand.

A. So it's not that you cannot assess the herniations in a coronally-sliced brain; you could still do it.

Q. When you say that you're taking the tissue to make blocks up and ultimately there will be -- or taking tissue blocks which will be made into slides, is there any consideration to whether tissue can be sent off for other testing? The reason I ask you that is because there was a concern about whether a virus had been responsible for the swelling in Claire's brain. Was there any thought that you might send that off for some sort of culture to see what could be developed out of that?

A. The tissues -- if they are sent off for culture or for viral studies ... There are two sets you can do. One, you can send it to virology for that, and for that you usually require fresh tissue, not fixed tissue. But if you want to do stains for looking for certain type of organisms, then you can actually look at it in histology under the microscope. You can assess in the same

histology you're assessing the -- you don't actually have to take separate tissues for assessing the -- for organisms in a fixed brain. But you have to send -- for viral culture or viral studies, then you take fresh tissues rather than the fixed tissues.

Q. If you're going to do that and think there might be a benefit, since nobody actually knows whether there was any kind of viral infection or, if there was, what sort it was -- they knew what the white cell count was at one stage, and it was slightly elevated -- is there any discussion between you and the trainee that maybe we'll take a section of that fresh tissue before or maybe you should do that since you won't be there at the time before the brain is fixed?

A. I can't remember that.

Q. Is that something that is done?

A. It is something done, yes. Something that can be done, and I'm not sure whether ... It's not actually in the report, but ... But that is something which can be done in the fresh tissue at the time of the autopsy.

Q. Yes. I recognise there are some things that if you don't do them at that time, you can't do them thereafter. Is that something that in retrospect that might have been a help?

A. Not necessarily. I mean, the viral studies could be

negative. In my mind, the more clear-cut evidence of a viral inflammation in the brain is the histology, because the viral studies, the culture studies may be negative, and yet the signs of the -- what we call in the pathology the footprints of the virus may still be looked at in the histology because the cellular reaction will still be there. Virus may or may not be there. So yes, in cases where you could actually find virus in the culture studies, that is helpful, but there are cases in which there is viral infection and you may not find anything, even with the fresh tissue and the culture studies.

Q. Can it be the other way round, that you can see it in the fresh tissue, but you can't actually see the evidence of in the stains on the slides?

A. That will depend upon the -- how long the illness has been present.

Q. Yes. In Claire's case, is it something that might have been done?

A. I don't remember that.

Q. I don't mean "was it actually done". In Claire's case, would it have been something that would have been useful to do?

A. The tissue for culture? I'm not sure because the histology was clear-cut, saying that there is a viral

infection, but the virus was not identified.
Q. The reason I'm asking is, at the time you're making your decision whether you're going to do that or not, of course you don't know what the histology is going to say because you haven't reached that stage yet. That's the whole point: that you need to make that sort of decision before you get to the stage of having the brain fixed and therefore producing your slides.
A. Yes.
Q. So at that stage, I'm simply asking you, is that something that would have been appropriate to do?
A. Yes.
Q. Then could I just ask you very briefly about other experts? Did it occur to you that it might be useful to seek a view from any other experts? For example, Dr Squier has referred to the possibility, once you reached the evidence that you thought you had for the neuronal migration defect, that might have been worth sending to somebody specialist to be able to help with that since it was quite a subtle change, even on your own description of it.
A. We are neuropathologists at the end of the day, so I think the specialist -- I don't know what Dr Squier means by "specialist". I mean neuropathology is a specialism in itself, so I'm not sure -- a

neuropathologist is not a general pathologist; he is a specifically-trained specialist neuropathologist.

Q. Even within that, I assume there are some people who specialise even yet further, and she referred to -- I will give you the reference in her report, 236-007-004. She talks about a "paediatric neuropathologist" or a "neuropathologist specialising in neurogenics". That was actually her thought that that might have been appropriate.

A. I think you can show it to as many people as you wish or you can show it to as many people as you may not wish, but at the end of the day we are all neuropathologists and we're all specialised, so if we are able to pick up that there were subtle abnormalities in the brain which were suggestive of a neuronal migration disorder, that was fairly sufficient in my mind.

Q. Then if we go to the staining of the slides, both Dr Squier and Professor Lucas have expressed views about the staining of the slides. Professor Lucas' views are to be found in his report at 239-002-011 and on into 012. It's there at the bottom. It says:

"I am a little surprised that no one, even in retrospect, has performed specific immunohistochemical stains on the tissue slides to determine for sure the presence/absence of inflammatory T-cells or reactive

astrocytes. In my book, infiltrating CD8+ T-cells are necessary to diagnose encephalitis in most cases."

Do you have a comment on that view of his?

A. I think again with due respect I have to add, here, Professor Lucas is not a neuropathologist and I'm aware of that, and I think when we felt in the H&E examination that there was lymphocytes around blood vessels and there was -- we didn't see any evidence of gliosis or astrocytic proliferation to call gliosis in the H&E stains. We did not feel at the time the need of doing additional stains. At the time, we felt it was sufficient for us to call it a low-grade encephalitis.

Q. Yes. Professor Lucas is a histopathologist.

A. Yes.

Q. Is this not in his area, histopathology?

A. Histopathology is an area, yes, but he's not a neuropathologist, so I think he's -- the inflammation in the brain, which we saw, there were lymphocytes around the blood vessels in the brain, and we felt that they were, yes, lymphocytes and lymphocytes around blood vessels are suggestive of a viral infection. And we felt that he was sufficient. What Professor Lucas is describing is sub-typing those lymphocytes. CD8+, this is a sub-type of lymphocytes. But it still doesn't change the fact that there were lymphocytes. What he's

doing is he's sub-typing them, but we have already said in our original report that there were lymphocytes around blood vessels. So we felt that that was sufficient evidence to call it a low-grade inflammation.

Q. Well, when Dr Herron was giving evidence he regarded it as really quite marginal, the evidence. In fact, I will take you to it shortly, but there's a reference to it in one of his witness statements where, on balance, he's not sure whether he could necessarily characterise it as encephalitis. But in any event, Professor Harding looked at the slides and Dr Squier looked at the slides, and they were not of the view that what was being shown there could properly be categorised as an inflammatory response and therefore a low-grade meningoencephalitis.

If it was low grade in the way that Dr Herron has said, would it not have been better to have applied further staining to see if you could enhance it and get a better appreciation of what's there?

A. But the sub-typing of the lymphocytes would not have changed the grading of the inflammation; it would have just told you that these cells are present or not, and we are saying right throughout consistently, yes, that there were lymphocytes, but sub-typing them was not going to change the grade of the inflammation, which these people are doing.

Q. If we leave aside the sub-typing aspect of it, is it not possible that the application of other stains show up better the result so that you can get a better sense of what is happening, irrespective of whether they assist you in sub-typing?
A. Well, I think -- again, I say that we had already established that there were lymphocytes. We interpreted those as evidence of low-grade inflammation in the brain. What the special stains would have done is sub-type the lymphocytes, but still that doesn't change the point that there was low-grade inflammation in the brain.
Q. I understand.
A. Even after sub-typing, the fact would be established, yes, it would be in keeping with the low-grade inflammation, which we are already stating right throughout. So I'm not sure how it would have actually substantiated what we were already saying.
Q. I will take you to the part of Dr Squier's most recent evidence, but let me give you Dr Herron's reference that I mentioned. It's 224/1, page 10. If you see in the answer just above question 16:
"As a neuropathologist, I can only address neuropathological issues in the case. It is possible that Claire did not have encephalitis in all the

circumstances, but I cannot comment on the specifics of her cause of death."

Leaving aside that latter part, the reference to "it's possible that she didn't have an encephalitis in all the circumstances" -- well, the only evidence that the pathologist can provide on the encephalitis is this inflammatory response, isn't that right?

A. That's correct.

Q. So if he's saying it's possible that she didn't, is that calling into question whether it's possible that that inflammatory response or what was considered to be an inflammatory response should not actually be interpreted in that way?

A. I think that is his interpretation, but my interpretation was that if there were lymphocytes around blood vessels in the meninges, that was very much in keeping with the low-grade inflammation in the brain.

Q. Have you seen Dr Squier's most recent report?

A. Yes.

Q. And she produced some slides to try and assist with whether that's in fact what's being shown. I think they start at 236-007-015. If we go on to the next page. She is contrasting -- she says that these slides are of similar magnification. She's contrasting the one on the left, which is Claire's, and one where she says there is

an encephalitis to show the different formation that one can see.

Her view is that what you were seeing was not actually an inflammatory response. Can you --

A. Well, I think she's correct in the sense that what she's describing is a case of a very acute fulminant encephalitis, whereas what we had was a very low-grade inflammation in the brain. So the two extremes -- one is a low grade and the other one is a very fulminant encephalitis. We have said all along that in Claire's case there was no evidence of a fulminant encephalitis.

Q. If you leave aside the fulminant encephalitis point, I think the point that she and Professor Harding are making is that the pattern that you have discerned here isn't necessarily one of an inflammatory response: there's no infiltrates, neither of them see any infiltrate, which is what they claim they would be seeing if you have a true inflammatory response.

A. I think it's not a different pattern, it's a different degree of inflammatory cells or number of inflammatory cells. In the case they are showing, of course there are a large number of inflammatory cells, whereas in our case there was a sparse number or small number of lymphocytes. So on the basis of that, we are calling it that this was -- our case was a low-grade inflammation

as against the case which we are showing, which was a very fulminant encephalitis.

Q. In fairness, it's not a case that they're showing; this is a case that Dr Squier has produced --

A. That is what I mean [OVERSPEAKING] --

Q. -- to show you by comparison. It's not one that Professor Harding has produced. Professor Harding's view in his report for the PSNI is really quite clear. In his view, he simply didn't see the evidence that you refer to as indicating any kind of inflammatory response.

A. Well, that is his view, but my view is that there was inflammation and it was low grade.

Q. And if there is -- if you look at Claire's slide there, what is it, just because obviously Dr Squier is going to address that, that you see there that indicates inflammation?

A. Well, there's those small dark cells which are present around the blood vessels, dark blue cells. Do you want me to point those out?

Q. I can see them. They're sort of like a ring round --

A. Like a ring round the blood vessel.

Q. And that to you indicates infiltration and an inflammatory response?

A. That's correct.

Q. Thank you. Just so that we have it, as far as you're concerned, the standard H&E stain was enough to produce that and it wouldn't have been of any assistance to have applied any other stains, unless of course you wanted to see what kind of virus you're talking about?
A. I think the standard H&E stain was sufficient at that stage to regard that as an inflammatory response, without --
Q. If you had done a further stain -- or a different kind of stain, I should say -- would that have helped to determine what kind of virus was producing that inflammatory response?
A. No.
Q. So what would the further stains have done?
A. Further stains would have highlighted the sub-types of lymphocytes, which may be present. I think we are fine-tuning here in the sense that we have said from the very outset that there were lymphocytes around the blood vessels in the brain, which in our mind -- or we interpreted them as evidence of inflammation in the brain. What they're describing is the sub-typing of the lymphocyte, but the fact remains that there were lymphocytes. So if there are lymphocytes and you would not get normally lymphocytes around blood vessels in the brain, so the fact that there were lymphocytes around

the blood vessels in the brain, in our mind, was evidence of inflammatory response in the brain.

Q. You said you wouldn't normally get it. Could anything to do with the process of Claire's deterioration and manner of death have -- leaving aside the viral aspect of it, if I can put it that way -- have produced that kind of response?

A. I am not aware of that. I don't think so, according to my experience.

Q. So according to you, once you've identified this, this is some sort of inflammatory response which you associate with encephalitis and that's the only explanation you can think of?

A. Yes.

Q. Thank you.

Then in terms of the status epilepticus, as you've already said, there's no real help that you could produce on that because it's not going to leave any kind of lesion or scarring in your view.

A. That's correct.

Q. Would it make any difference if you had been told that it was non-fitting status epilepticus that might actually have been going on for some time? Would that make any difference to whether you would have expected to see anything?

A. Not necessarily.
Q. It's just not that sort of thing?
A. No.
Q. Thank you. If one thinks about epilepsy, though -- part of the information that you have been given in the autopsy request form was that Claire had had epilepsy at some stage in the earlier part of your life. As you said, you look at the brain as a whole, you were looking for it to see if there was anything that might explain, as it was described to you, her mental handicap. Presumably you'd be looking to see there was any footprint from the epilepsy, any scarring maybe.
A. Mm-hm.
Q. Did you do that?
A. We looked at the areas which are specific -- where you will actually see scarring for epilepsy. But it's not always the case that you will see scarring with epilepsy. You may or you may not see it, and again it is not specific to epilepsy. You can see scarring in the same region due to other causes.
Q. Yes. All I'm asking you is: were you looking for it?
A. Yes, we did.
Q. And would you be looking for that in the hippocampus, for example?
A. That's correct.

Q. Are there any particular stains that would assist you in highlighting any scarring that might be there?
A. Well, you can see the scarring very easily in the H&E, in the original screening, haematoxylin and eosin, and therefore we didn't find any evidence of scarring, so therefore we did not go ahead and do any special further stains.
Q. Dr Squier thought you might have -- well, she did -- stained with GFAP and there are other stains that you might have applied could have highlighted subtle changes.
A. Dr Harding didn't think that there was scarring either.
Q. No, I'm just asking you in relation to what she said. In addition, she made her own slides, to which she applied other stains and her view, as I understand it, is that those stains would assist in highlighting subtle changes. I'm putting to you: did it occur to you that you might have applied other stains apart from the standard H&E?
A. No, because we did not find any evidence of scarring, so therefore we did not consider that there was need for doing further additional stains.
Q. And will H&E show sufficiently clearly very subtle changes?
A. Yes, it would.

Q. Then why do people use the other stains?
A. I think the other stains which they're using, which -- clearly, scarring in the brain is astrocytosis or a proliferation of astrocytes which you will see, but the difficulty with the staining which is done for astrocytes, which is GFAP, is not actually specific to astrocytes because it stains up other cells as well. A lot of the people -- different pathologists will have different views on the specificity of the further additional staining, which is the GFAP because it is not specific to astrocytes. So just the fact that there are GFAP-positive cells present does not always equal that there is astrocytosis or scarring.
Q. Well, do you ever use any other stains other than H&E?
A. Yes, we do. It depends on what the nature of the case may well be. We use a variety of --
Q. What sort of thing leads you to do that?
A. If we find any evidence or if we see any abnormal cells or if we find any excess of cells of a certain type. So we would like to see whether this excess of cells which is present, is it just one type of cell or more than one type of cell or, if there are abnormal cells present, then we will assess whether they are neoplastic or whether they are reactive astrocytes. So we do for a variety of reasons, but the H&E is a very good indicator

in the beginning as we are screening stains to give us that information.

Q. Do you think for the neurone migration disorder, which was subtle, do you think that you might have applied further stains for that?

A. You could have, but we felt that was sufficient, what we looked at it at the time, that there was these cells present where they should -- I think in the kind of subtle neuronal migrational disorder which we talked about in the report, should not be confused with the classic or with the severe end of the neuronal migrational disorder. In subtle neuronal migrational disorder, it is actually the anatomical place where the cells are present, which should not -- rather than the cells themselves.

So what we did was in the histology is we found these cells, which were in the deep white matter, and by that stage those cells should not be present in the white matter. It's not that the cell type -- it's the anatomical compartment of the brain where the cells are present that makes it into -- takes you to think that these are -- and that's why it is called "migration disorder". Because by that stage these cells should have migrated to the cortex. The cells all start, neurones, close to the midline, to the cavities of the

brain, and as the brain matures and develops, these cells migrate to the cortex and hence we see these gyri or foldings of the cortex, they form the constitute -- so the fact that the cells were abnormally placed in the white matter, that's what prompted us to make a diagnosis of a subtle migration disorder rather than the cell type itself.

Q. Finally on that quote, Dr Squier will say that it's quite possible to find still some cells there in that place without that necessarily meaning that there is any neuronal migrational disorder. That's just a facet.

A. That is again Dr Squier's view and I fully respect her view, but I think we felt that, even for her age, it was slightly abnormal to find those cells at that age at that point. I would expect in younger children or maybe newborns, but we felt at that time in that age group it was abnormal, and we felt that it was important for us to record that if we felt that it was abnormally placed.

Q. Then can I ask you about the inappropriate ADH, which was the third of those four clinical problems on the autopsy request form. It's actually given more importance than the viral encephalitis, which is the fourth, and which is a query anyway. Do I understand you to say that there wasn't very much that you thought that you could assist with in relation to that?

A. That's correct.
Q. Thank you. Did you think that you ought to be considering it all, even if it's something that you wouldn't be able to see any evidence of on the histology? Was it nonetheless something, together with the hyponatraemia, anything that you should have been thinking about?
A. Well, this is one of the things with hyponatraemia or with the inappropriate ADH disorder that you don't see anything structurally in the brain. So therefore, for a pathologist to put a slide under the microscope to say that this is or this isn't hyponatraemia, I think it's not possible. For instance, if you have a tumour, you can say very categorically, yes, the patient had seizures, the patient had epilepsy and we found a tumour in the brain and this relates directly to the presence of the seizures or epilepsy. But that is not the case in hyponatraemia or SIADH because of the lack of specific structural lesion in the brain.
Q. Thank you. Once you had got to that stage where you had looked at your slides and formed those sorts of views, which is that your contribution, if I can put it that way, is that there was some low-grade inflammatory response which may or may not be associated with some form of encephalitis and there was a neuronal

migrational disorder, a subtle one, which you thought you saw there. So that's -- you have reached that stage.

A. Yes.

Q. You haven't yet at that stage actually written your report yet, though. Is that a time when you might have a discussion with the clinicians?

A. We don't actually necessarily have a discussion with the clinicians at the time when we are still formulating the report and we are completing the histology. But once we have completed this histology and we have done the report, then we would -- the case would then be discussed in the ward rounds or mortality meetings or whatever to put to the clinicians or the clinicians who are actually present that these were our findings, and then the discussion goes on from there.

Q. All right. Then if we turn to the report proper, the report has an anatomical -- well, firstly, before the report goes out there's a provisional anatomical summary that goes, isn't there?

A. Yes.

Q. And Dr Herron has said that he produced that.

A. Yes.

Q. Sorry, I'll just give the reference for it. 090-005-007. Do you see that or is that something just

that the registrar does and it's nothing you need to look at?

A. No, the -- well, the report is done by the -- after the registrar has completed the autopsy, the provisional anatomical summary, which is a interim report to inform the clinician what has transpired. Very often in cases of neuropathology, because there may not be anything to look at microscopically until you dissect the brain first, this is really an interim report and the registrar does it. Obviously, after he has completed the autopsy, he will have discussed the autopsy findings with the consultant.

Q. Let's pull it up then, 090-005-007. I didn't hear you properly, did you say that was an internal report?

A. No, an interim report pending histology.

Q. Does that go to the clinician?

A. That goes to the ward, yes, to the clinician.

Q. Do you see there:

"A history of acute encephalopathy. Brain to be examined after fixation."

A. Yes.

Q. Where does that come from, the history of acute encephalopathy?

A. That must be from the clinical notes or the autopsy request form. I can't remember where.

Q. Let me pull up the clinical history on the autopsy request form, 090-054-183, alongside this. Maybe if we could enlarge the "History of present illness" section to make it easier. Can you see how --

A. It's very difficult to see anything in there.

Q. Yes, I accept that. Would you regard that description as giving rise to a history of acute encephalopathy?

A. I think there's -- although it doesn't mention acute encephalopathy in the obvious way, but what it says here is:

"Started to vomit, speech becomes slurred and she became increasingly drowsy."

I think that is suggestive that one of the reasons may well be that there is an acute encephalopathy developing.

Q. So it's really a query then?

A. It is a query at that stage, yes.

Q. When you say that you discussed this, would you discuss what went into that anatomical summary given that it's going out to the clinicians?

A. Yes.

Q. Might it have been better phrased as "a possible encephalopathy"?

A. I think at some point in time -- I can't remember exactly, but at some point in time either in the

clinical notes or in discussion with the clinicians, it must have transpired that this was one of the things which they had considered clinically, that the patient was developing an acute encephalopathy and hence this history of -- it's included in the anatomical summary.

Q. Can I ask what the purpose is of sending this out to the clinicians if it's essentially going to recite something that they might have provided to you?

A. The purpose is to say -- to describe that there was no obvious external lesion on the brain --

Q. Okay.

A. -- to which the pathologist, at this preliminary stage, can say that that is what caused acute encephalopathy. And again, I go back to the very good illustration of a large brain tumour. If it is present, it will be apparent on the whole brain, looking at it with the naked eye, and it's just to indicate to the clinicians that there was no obvious external lesion on the brain to account for the presenting illness.

Q. So as far as it can go, this is simply going to describe or at least exclude anything from what you have seen?

A. I think it is more for the negative findings rather than the obvious positive findings.

Q. Yes. Then can I ask you about the purpose of the autopsy report?

Dr Carson who was the medical director at that time, his view is that the purpose of the report is to inform the clinician, who may have requested the autopsy, and the family, in regard to questions about the person's illness or the cause of death. We don't need to pull it up, but that comes from his witness statement, 270/1, page 7. You had already said that the purpose of the autopsy itself is to investigate the cause of death; do you accept that as the purpose of the report?

A. Yes.

Q. Thank you. And then if I ask you about the timing of the report. You had said that you had a role in audit and one of the things that you were auditing was response times, if I can put it that way.

A. Mm-hm.

Q. The actual report is nearly three months after the brain was cut, which is 28 November 1996, it's about three and a half months after Claire has died. Dr Herron gave an explanation for why it's so long and he's got a pie chart. But from your point of view, is that a typical sort of time?

A. Well --

Q. On a brain-only, I should say, because I know there are extra matters that have taken into consideration like fixation.

A. I think it is a typical sort of time for a complex neuropathology case. It's not unusual for neuropathology cases to have a long period of fixation, along period of review and a long period of additional work carried out in the lab. And the neuropathologist component of the whole turnaround time is a very limited one. The bulk of the time is with the lab, so when the case either for -- after the blocking or the staining is being done or additional work is being done, so it is a process rather than just a one point --

Q. In fairness to Dr Herron let's put up his chart very briefly. Witness statement 224/3 at page 74. If one enlarges that a little bit for ease. There we are.

So the purple stage is what you were just talking about, which is the lab preparation and the review. That khaki colour, the greeny colour; is that fixation time?

A. That's fixation time, yes.

Q. And that's about four weeks or so?

A. Well, it could be four weeks, it could be six weeks and it could be longer [OVERSPEAKING].

Q. Yes, but in terms of the time that it actually requires the brain to get to the stage where it can be cut, that's about four weeks.

A. It's approximately four weeks, but it could be longer.

Q. Yes. Then that time that's covered by the purple is the sending off the blocks to get them made into slides and that whole processing of that; is that right?
A. That's correct.
Q. So if there's pressure on the lab, that's what impacts on that time?
A. That's correct, quite correct.
Q. Is that part of the issue because if one looks at it in the way that Dr Herron was explaining it, the actual time that you spend with the product of all that, assessing it and determining what your conclusions are, is actually relatively short?
A. That's correct.
Q. Nobody can do anything about the fixation time, that's just how long it takes, but the lengthy time in between is the lab time. And when you're dealing with your audit issue, if I can put it that way, is that one of the things that you're discussing, the extent to which laboratory resources are impacting on turnaround times?
A. Well, I think it's -- yes, laboratory resources are one aspect of the stages of laboratory preparation and review. But there could be other factors like the nature of the tissues themselves because the brain tissue is just so delicate and you have to proceed with a lot of caution. You're not dealing with an organ like

a liver or a kidney, which are very firm organs with good structure, nice scaffolding. The brain doesn't have that sort of thing, so very often you have to actually deal with these tissues in a very slow manner. So there might be legitimate reasons for taking longer periods of time to deal with these tissues, so that the end result is appropriate for assessment for histology.

So yes, there are resource issues and there is pressure on time, and there are a number of technical people present at one point in time in the laboratory. But there could be genuine reasons for giving the margin for the nature of the brain tissue itself.

Q. As to those general issues, which would affect everybody, all neuropathology labs --

A. Yes.

Q. -- is that something that you have -- any contribution about that that you have made to the guidance that comes out of the Royal Colleges, which I think Dr Squier queries whether some of the guidance in terms of turnaround times could be adhered to even today. And I think what she is thinking of and certainly I think Dr Herron was of the view that they're rather unrealistic for the sort of work you're doing.

A. I must say, I will agree with Dr Herron because I know that it is -- although the College guidelines say -- and

this is the difficulty I have with Dr Squier describing adhering to the guidelines. Because the turnaround time will depend -- which is actually quite clear from this pie chart -- will actually depend upon the initial period of fixation for the brain. So if the brain is not appropriately fixed, it would be very difficult to actually do any detailed examination after that. So therefore, everything will actually depend on the initial stages of processing of a particular case.

Q. In fairness to you, doctor, Dr Squier is with you on that. She says in relation to the 1993 guidance, which is the guidance which would have been relevant at this time, that the -- it refers to the final report being issued in four to six weeks and she says:

"I doubt that standard is often met, even today."

That was her view, that that was effectively an unrealistic standard and what I'm wondering is, given the work that you have in audit, whether that point has been passed on, that it's unhelpful to have unrealistic audit turn around times?

A. We discuss this when we do the audit. We discuss it from time to time with our clinicians and we explain to them why a particular case may or may not be within the guidelines -- because the guidelines are always flexible and the period of fixation of brain itself is that, if

you take the minimum period of fixation, that is four to six weeks, so there's no way you can produce a final report in four to six weeks because that is in itself -- that's why we find it very difficult even within the guidelines. When the period of fixation is even beyond the guidelines, stated guidelines, it is very difficult to -- because then the case comes back after histology and if you're doing additional work or taking more blocks or doing additional stains, that would again then add on to the time factor itself.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: The significance of that for Professor Lucas is that, given that ultimately you are looking towards having some sort of meeting with the clinicians to see if you can correlate, if I can put it that way, what the clinicians have seen during the life and what you see under your microscope, his view is that an overlong time can have a detrimental effect on that discussion as they move on and deal with other things and I suppose it is just an issue as to how that is managed so that the case remains to the forefront so that you can get your best discussion.

A. Well, yes, and no. Because the clinician -- when you're dealing with a case and you're discussing with the case, the information goes to the clinician that the case is

coming up for discussion. So I think even if there has been a longer time interval between the time of the autopsy and the issuing of the final report, the clinician is aware of what the issues clinically were, so when you're actually discussing the case with the clinicians, the issues are all raised, so it's not that anything is forgotten just because there was a longer period of time.

Q. Well, it shouldn't be --

A. No, it shouldn't be. They're not.

Q. Then if I also deal quickly with attribution. I think both Professor Lucas and Dr Squier were of the view that the consultant should, if not actually sign the report, their name should be referred to in the report. I think you said earlier that ultimately you're taking responsibility for the report.

A. Yes.

Q. We have no way of knowing if the report that we have all been looking at and treating as a final whether that was the final since it's not signed. But from your point of view, would you expect, if you were the consultant, to in some way -- that that is evident from the report?

A. Very much so now, but it didn't happen in that time because if the person who was actually conducting the autopsy -- and if they were of sufficient seniority, you

know, it was the practice that the name of the senior registrar would go on the report. But I think now -- and I think I agree with you -- that that is actually a better practice to have the consultant's name on the report.

Q. Thank you. In the version that we've been treating as the final version, if I can put it that way, the SNOMED codes are removed. Is there a reason for that?

A. I cannot ... I don't know why they were removed.

Q. Can you recall whether that was something that was done routinely in 1996?

A. Well, all the final reports have the SNOMED codes on them, so I can't explain why they are not there.

Q. They do on all the drafts, you're right, on all the drafts that we've seen they're on there.

A. Yes.

Q. Okay. The anatomical summary -- there are some differences between the anatomical summary and the autopsy request form. Do you know what gives rise to those? I'll give you -- let's pull that up. It's easier if you see it. 090-003-003. Then if we have the first page of the request form, which is 090-054-183 alongside it.

You can see there it says there's a history of recent diarrhoea and vomiting and I think Dr Herron's

view is, although he didn't write it, that that came from the reference to a few loose stools and --

A. Probably.

Q. -- and the reference to vomiting. Is that how you would interpret that?

A. Probably.

Q. Then it goes on to talk about a history of epileptic seizures since 10 months of age. And if you look on the right-hand side, under "Past medical history", it says:

"Seizures from six months to four years."

Are you aware of where that came in?

A. No. Either it was picked up from the medical notes or ... I'm not sure.

Q. Yes. Then if one looks right at the bottom, you see in her past history:

"She had an iatrogenic epilepsy since 10 months."

What is an iatrogenic epilepsy?

A. I think that might be a typo, typing error. It probably means "idiopathic" rather than "iatrogenic".

Q. Your view was that that came from the clinicians, that's in your witness statement, 247/1, page 9 in the answer to question 1 4(d). So you were specifically asked about that. Maybe we will pull it up so we can see it. 247/1, page 9. 14 (d):

"State what you mean by 'iatrogenic epilepsy'."

And your answer to that is:

"This is a clinician's statement."

A. Yes. Iatrogenic epilepsy is a clinical statement, it's not a pathological term. That's what I mean to say. But whether in this particular case what they meant was idiopathic or iatrogenic --

Q. No, but where did you get it from? That's what I meant. Where did you get the term from?

A. Either from the clinical notes or from the autopsy request form. I'm not sure. I don't remember.

Q. It's not on the autopsy request form.

A. It's either on one of the notes somewhere or it is simply just a typing error.

Q. So it might have been your typing error?

A. Well, not mine.

Q. A typist's error?

A. Yes.

Q. Then if we pull up the comments section of your report, 090-003-005. One of the things that the 1993 guidelines for post-mortem reports require is a commentary section, which is to be written in the light of all the information available, and the purpose of it is to reconcile, as far as possible, the major clinical problems with the pathological findings and to present any inconsistencies in the findings and suggest any

steps to be taken such as further opinions, audit meetings, et cetera. That's to be found at 236-007-054, though we don't need to pull it up.

So the only place where one sees an attempt at that is in this commentary section. Can you help us with how that provides the clinicopathological correlation that is required in the guidance?

A. Well, it summarises the findings that the features here are those of cerebral oedema, which was clinically felt as well, and in association with that it was felt that there was neuronal migrational defect and a low-grade sub-acute meningoencephalitis, and the clinicopathological correlation is that there was no discrete lesion or a structural lesion, which we found to explain the cause of the epileptic seizures.

The probable clinical diagnosis of viral encephalitis or viral meningoencephalitis was substantiated by the fact that we saw -- the reaction in the meninges and cortex is suggestive of a viral aetiology. And this is a clinicopathological correlation in the sense that what we thought clinically, we found structurally the evidence of that in the brain.

There is a clinicopathological correlation in the sense (a) explaining there is cerebral oedema and there

is no other cause for cerebral oedema which we found structurally, and (b), the presence of inflammation was confirmed at the time of the autopsy, which was clinically suspected.

Q. If we go through what the 2002 guidance, which was looking back to 1993 and dealing with practice that has developed since then says, it starts at 206-004-090. So you can see it there at 8.1:

"The Royal College of Pathologists issued their guidance in 1993, and these new guidelines are to replace those and incorporate those that have emerged in the intervening period."

These are guidelines that you said you were familiar with.

A. Yes.

Q. If you look down at 8.4, it says the things that the report will normally include, an autopsy report. Then if we go over the page on to 091, you see:

"The following must be written in the autopsy report; optional items are listed separately."

If you look down those bullet items, there's "the name of the pathologist responsible for the autopsy". That's one. And I think you have now said the practice would be that that is what would happen now.

A. Yes.

Q. And by "responsible for the autopsy", that would mean the consultant?
A. Yes.
Q. And then a little bit below that, "the persons present during the autopsy". Is that meaning the persons present when the brain is taken out?
A. That's correct. During the autopsy.
Q. Yes.
A. Yes.
Q. When you were giving your evidence, you said that that would actually be something that a sufficiently senior registrar would do by themselves.
A. Yes.
Q. Is that something which, at that stage, you thought of identifying the person or the persons there in the report?
A. I think it's usually the medical persons would be identified, like Dr Herron or myself, or whoever is actually conducting the autopsy. But obviously, of course, there will be mortuary technicians and other people helping with the autopsy.
Q. I meant the medical people. As it happens, it has Dr Herron's name in and it has it in throughout, even though he only did certain sorts of things. Nowadays, would you distinguish that?

A. Nowadays the supervising consultant's name will also be present --

Q. Along with the --

A. -- along with the registrar's.

Q. -- along with the registrar's. I understand.

If then one goes over the page to 092 and one sees about the clinical history here and contrasts that with what's shown in the one that you provided, it says:

"All autopsy reports must include a clinical history to make clear the context of the autopsy. It comprises a summary of the present illness in chronological order and the circumstances of death. The past history often explains the findings and it is the pathologist's responsibility to be satisfied that a reasonable account had been obtained and mere references to notes or letters is not an adequate substitute. Absence of or difficulty in obtaining clinical information should be recorded. The source of the information, whether it is the medical notes and records ..."

And then it goes on to deal with a point that Dr Herron had made yesterday, which is:

"Many coroners specifically do not want a history or detailed history incorporated into the main body of an autopsy report. This is not best practice, but it is acceptable for the received clinical history in coronial

cases."

So they seem to be making a distinction and saying that fuller history is something that ought to be provided in a non-coronial autopsy.

A. Mm-hm.

Q. Is that the standard that you were striving to achieve with whatever would have been your constraints and restraints in 1996?

A. Yes, because the clinical history which went on the autopsy report was actually directly taken from the history on the autopsy request form.

Q. That's the point, isn't it? If it's your responsibility, maybe you should not be necessarily accepting that that is accurate.

A. Well, it is not for the pathologist to say that the clinical history which has been provided in the summary is -- how accurate that is because we have not been involved with the care of the patient.

Q. I think that's why under that bullet on clinical history it refers to you identifying your source, like medical records.

A. Well, at that time the source of the clinical history was not identified, whether it was ... I mean identified on the autopsy report.

Q. But what it suggests to you is that you have available

to you the medical notes and records and that is therefore something that you should be consulting when you are taking responsibility for providing the clinical history.

A. But it's usual practice when the autopsy request form comes down to the mortuary that medical records also come down, usually. That's the usual practice. And very often they are available for the pathologist to consult.

Q. Exactly.

A. So the pathologist would have consulted the medical records. But I point out that in all the cases, that may not be the case, that medical records have not come down, so what the pathologist has is only the summary which has been provided to the pathologist.

Q. I understand. But if the pathologist has access to the medical notes and records, then they can be used to furnish the clinical summary.

A. Yes.

Q. Thank you. Finally, over the page, very quickly at 093, that's where it deals with the clinicopathological correlation:

"This is probably the most important part of the autopsy report for the clinician and often the coroner and the section that is read first.

A clinicopathological commentary must be written in the light of all the information available and the length will depend on the type and complexity of the case. The major clinical problems must be correlated with the pathological findings and, where possible, a brief narrative given of the sequence of events that led to death. New pathological lesions are indicated. Any inconsistencies in the findings or still uncertain pathogenesis of the final events are presented and steps to be taken such as further opinions, mortality and audit meetings are indicated. Discussion with the responsible clinicians will yield optimal clinicopathological correlation, but frank discrepancies or disagreements must be noted."

That is easier to put in your report if you've already had, effectively, your grand round. So you've sent out your best report pending any information that comes out of that grand round that might lead you to refine your view and that's how you might be able to indicate the frank discrepancies or disagreements.

A. Mm-hm.

Q. But if you produce your final report first and have your grand round, then at least it suggests that somewhere should be recorded any discrepancies or disagreements between the pathologist and the clinicians. Would that

be a fair interpretation of what's being suggested there?

A. These are guidelines, but I think we must remember that there is an element of flexibility in all these things. There was very good reasons why, when the discussions were being had at the clinicopathological rounds and so on, those discussions are actually very vigorous and very intense, and they're not recorded for very specific, good reasons. But that doesn't mean that the clinicians in charge of the case were not there to take home with them the points if there were any points which were raised at the time -- and I actually don't remember what discussion we had at the time -- but this much I know, that the case was definitely put up for a neurosciences grand round and the information was sent for the clinicians to be present there.

Q. Let's come to that so that we understand what happens at one of these things.

THE CHAIRMAN: Just before you do, is there a significant change between these guidelines from 2002, which didn't apply in 1996/1997, and the earlier 1993 guidelines? Does this section that we're looking at represent a significant change in guidelines from the College about how autopsy reports are completed or is it a repetition of the same thing?

A. I think it is very much a repetition of the same thing. The only difference may be that the attendance at these grand rounds is recorded now, which were not recorded at that time. The names of the people who were actually present at the grand rounds, that is usually recorded now, so you can say on a certain specific date who was present and who was not present.

THE CHAIRMAN: The trouble that we discussed yesterday, and I'm not sure if you're aware of it, is that there might be a very interesting and vigorous debate between the clinicians and the pathologists, but Mr and Mrs Roberts have no identified way of being advised of this discussion or if there were different views. It's genuinely interesting, I am sure for the doctors, but how does it help the family?

A. This is why, when the case is coming up for discussion, the list is sent or the information is sent to the clinician in charge that the case is coming up for discussion and it is -- after the discussion, if there has been any certain issues or points which have been raised, one would hope or expect that the clinicians would, if there were any differences than what was on the original report, that these will be then brought up by the clinician concerned with the family. Because the pathologists do not actually meet or discuss the issues

with the family.

THE CHAIRMAN: Yes. Have you ever known a report to be changed as a result of this grand round?

A. I can't remember.

THE CHAIRMAN: There must surely, at some point, be circumstances in which, when there is a vigorous debate, that something emerges which -- well, maybe doesn't lead to the report being changed, but leads to it being reconsidered.

A. Put it this way, it may be recorded if there was a difference of opinion, and if it is recorded, which is now practice -- that if there is a difference of opinion it may be recorded and the family may be informed about the difference of opinion. But in a consented autopsy, unless there is a major issue, I'm not sure how far down the line it actually goes.

THE CHAIRMAN: Mr Fortune?

MR FORTUNE: Dr Mirakhur indicated that at the time with which we are concerned there were good reasons for not recording what was discussed at these grand rounds. Can we hear from Dr Mirakhur what these good reasons were, bearing in mind Dr Herron's evidence yesterday?

A. One of the reasons which probably is that the -- these discussions are actually very frank. They're very vigorous and the clinicians, among themselves, discuss

very vigorously with each other and agree or disagree if they wish. And that is one of the reasons why they are not recorded, so that it doesn't inhibit anybody to come up with very vigorous opinions, which he or she may have during the discussion.

THE CHAIRMAN: Would that discussion include a consultant blaming another consultant for what happened to a child?

A. It ... It may or may not.

THE CHAIRMAN: Is that what you mean by "very vigorous"?

A. Yes, it may or may not.

THE CHAIRMAN: So if there's a discussion or debate along these lines, then there will be knowledge within the hospital, for instance, that Dr A and Dr B say to Dr X, "I'm sorry, you have to face up to it, you let this child down. This child died or would have had a better chance of survival but for the way you treated that child". But if Dr X is the consultant who is in contact with the family, is Dr X really going to go to the family and say," I have to tell you Dr A and Dr B have said this"?

A. If there's ... I think if it alters the cause of death or if it alters what originally was said in the report in a major way, it is up to the clinician caring for the patient to discuss it with the family.

THE CHAIRMAN: Okay.

A. But I cannot remember how much that happened in this particular case.

THE CHAIRMAN: I'm not talking about this particular case, I'm broadening it out, doctor, because it seems to me that it would be -- although maybe it should be done, it would seem it's putting a significant obligation on a doctor who's being blamed by other doctors for letting down a patient to say that "You have to go to that family and you tell them that". Particularly, for instance, if the doctor doesn't agree. Let's say I'm the doctor and at that grand round I'm being blamed by other doctors for the death of a child and I don't agree. In fact, whether I agree or not, that information isn't going to reach the family, sure it isn't.

A. I don't know.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: That's just where I was going to come to, the aftermath. In what typically happened in 1996, as I understand you, you finalise your report, you and the senior registrar had your discussion, reached a common view as to what the evidence showed, the report was drafted up, finalised and sent out to the clinician; is that right?

A. That's correct.

Q. And then what would happen is that there would be a note that the report is done, we're going to have the grand round whenever it is on the Tuesday, you say typically, and then that -- does it only go to the clinicians who are named on the autopsy request form? Who, other than the neurological community, if I can put it that way, gets notice of the grand round?
A. I think there's what I would call the core neurosciences clinicians -- which will comprise neurologists, neurosurgeons, paediatric neurologists, neuroradiologists -- and then any clinician who is what we would call a relevant clinician outside this core, and because the clinician is relevant to the discussion, the list will actually usually go to them, informing them that the case is coming up for discussion.
Q. So in this case, Dr Steen, who was the paediatric consultant for Claire, she's the person who signed and sent the autopsy request form. A notification would go to her?
A. Yes, and also the clinicians who are actually mentioned on the autopsy at the top of the autopsy report: Dr Webb and Dr Steen [OVERSPEAKING]. So the -- sorry, the information or the list will actually go to the clinicians who are mentioned on the --
Q. Dr Webb would be there anyway, typically.

A. Dr Webb would usually be there.
Q. But it might be worth telling him specifically because it would indicate that a case in which he had been directly involved in as opposed to one which was just a professional interest.
A. What happens is that -- I think I'm not explaining myself maybe clearly. What happens when a particular case is coming up for discussion for a grand round, the information about the case or the list of the cases coming up for discussion goes to the core neurosciences group.
Q. I understand.
A. That is A. B, it goes to the relevant clinician who will be outside the core of the neurosciences group to inform them that the case is coming up.
THE CHAIRMAN: Sorry, doctor, if you pause there. Is it the list of names goes or is there information about each of the cases?
A. No, information about the -- there's a list which we prepare, "The following cases will be discussed at the neurosciences grand round on Tuesday morning".
THE CHAIRMAN: Right.
A. And it is a list of cases. So the list of cases goes to the clinicians.
THE CHAIRMAN: When you say a list of cases, does that mean

it's a list of names?

A. List of names. Just a list of names, yes.

THE CHAIRMAN: No more detail than the names?

A. Obviously the hospital number for them to locate the medical records and things like that or any records which they have. So it goes to the core and, outside the core, it goes to the relevant clinician. And within the core, the neurologists will look at the list and say, "Right, that is a case in which I was involved", so they would want to be present for the case, even though their involvement may be relatively small or major, depending on what their involvement is. But once they associate themselves with the case or they're aware of the fact that, yes, I was involved at some point in time in the management of the case, I would be there.

MS ANYADIKE-DANES: So now apart from the sort of person, the core as you say, who just routinely goes to these things for professional development purposes, if I can put it that way, the only other way you would know what the aspects of that case were to know whether you'd be interested to hear it discussed is if you'd been involved in it.

A. Yes.

Q. And if that was the case, you would get notification of it and there's no other way that -- am I right in

saying -- that anybody in the Children's Hospital other than those whose name, for example, was on the autopsy request form, would actually know that a case of potential interest was going to be discussed?

A. No.

Q. So for example, if you'd been a registrar and had been involved in the treatment of that child, unless your consultant, who provided the autopsy request form, specifically told you, "They're discussing that child at the next grand round", you wouldn't actually know that?

A. Well, that is not for me to say. It is up to the consultant whose case it may be.

Q. Yes, that --

A. They might actually mention it, they may discuss it with the registrar, "By the way, certain such-and-such a case is coming up, so I'm hoping to be at it", and very often the registrars will accompany the consultant to hear the discussion, what transpires.

Q. I understand that. The point I'm making it is it's not a list that goes up anywhere so that if you were a registrar and noticed, "That's a case I was involved in", you could independently make a decision to go. If you're outside the core, as you described it, you will only know that if somebody tells you about it.

A. That's correct.
Q. Thank you. So the core turns up as well as those who were directly involved in the case, who want to be part of the discussion --
A. Yes.
Q. -- or who can be. They might want to, but just can't be available on the Tuesday. Although I know you say you were not entirely sure what was discussed in Claire's case, but can you describe what form it takes? What happens at a grand round?
A. What happens at the grand round is that the clinician or clinicians who had been involved in the care of the case would be present with the clinical findings or they will describe the clinical history or how the patient presented, what transpired and all that.
Q. Do they do that from the basis of the medical notes and records, does it go to that level of detail?
A. I think they have their own notes. Whether they bring the entire bulk of the entire records or whether they make a summary of it, or whichever, but they do it from their own notes.
Q. Do you recall in Claire's case who actually did that?
A. No, I don't.
Q. Even whether it was a female or a male doctor?
A. No, I don't remember that.

Q. Sorry, okay.
A. So the clinicians will actually present the clinical findings. Then the radiologist would discuss the relevant radiology.
Q. Yes.
A. Then there will be -- after that, after the clinical findings, the radiology is discussed, then there will be a clinical discussion in which everybody or anybody can take part. And then the pathology will be discussed. At the end, there will be another discussion to relate the pathology and the clinical findings.
Q. When you say "the pathology is discussed", does that mean that a presentation is actually made on the --
A. That's correct.
Q. -- pathological findings?
A. Yes, we will discuss the naked-eye findings and the histology findings. We'll do a presentation of the naked-eye findings and the histology findings.
Q. And those slides that we see pictures of --
A. And those35-millimetre slides.
Q. -- you'd be showing those?
A. Yes.
Q. And can you recall if it was you, even though you might not actually remember the details, did you actually make that presentation yourself?

A. I was involved in preparing those slides, so I must have done those.
Q. Yes.
A. I probably did that, most probably, and I'm sure with Dr Herron as well.
Q. If you pause there a minute because somebody had asked me a point that I hadn't put to you. As you talk about how you were involved in preparing the slides, there were some extra blocks made for you in relation to that presentation.
A. Yes.
Q. Can you help with why you were having that done?
A. I think this is just for the completeness of the case because when we are presenting it -- well, extra blocks means that if we have looked at a certain area of the brain, we want to make sure that we have looked at it, at the same area. It's not that when the report is done, the case is incomplete. That's not the case because the case is only completed when all the blocks have been examined and the case ... when it comes up for the neurosciences grand rounds. By that stage, all the histology has been looked at. By "extra blocks", we mean that when we initially block the brain after the brain has been fixing for a certain period of time and we look at the histology, then we want to sometimes go

back and say, "Right, okay, we want to look at a couple more areas to make sure that there isn't a relevant pathology in that particular area". But that is all done before the autopsy report is completed.

Q. Thank you. Can I just ask, do you happen to know which are the slides that relate to those extra blocks you requested?

A. I can't remember.

Q. Or even the area as to what you were looking for?

A. No.

Q. Okay. So you present and then there's another discussion?

A. There is discussion, yes, after the pathology has been presented.

Q. And about how long does the grand round take?

A. Well --

Q. Roughly.

A. The total grand round takes about a couple of hours, but there are a number of cases in it.

Q. I understand.

A. So an individual case doesn't take a couple of hours. There may be, you know, other autopsy cases or other biopsy cases, depending on the nature of the case.

Q. What is the expectation of what the grand round can achieve? Because it's been categorised as part of your

clinicopathological correlation.

A. Yes.

Q. One part is the commentary section of your report, the other part is what happens at these grand rounds. So what's the expectation of what you will achieve during that grand round for Claire, say?

A. Well, it is a clinicopathological correlation and it also sort of -- because there are trainees present in there as well, so it's a learning, training exercise as well. It informs the trainees and informs the other clinicians who may not be directly involved with the care of the patient, but who can take part in the discussion and propose their views if they have any.

Q. Claire's case would have been a particularly good one to discuss, wouldn't it, because from your point of view it was inconclusive?

A. Yes, because also -- and we felt that it showed a number of features in the brain, which were worth discussing.

Q. And some of those things that had started off as clinical problems which were listed on the autopsy report are not things that you could assist with, so that was necessarily going to have to generate further discussion.

A. Yes.

Q. Can you recall at all what the sense was in relation to

Claire's case?

A. No, I don't recall.

THE CHAIRMAN: Let me ask you this: you have said sometimes there is a vigorous debate. Was there a vigorous debate about Claire?

A. I'm sure there was because that is the norm for all the cases, not just in Claire's case. That is for all the cases. There's a vigorous debate. So it's not that there was ... Just for one case. And there's a vigorous debate for all the number of cases which are being presented that particular day.

MS ANYADIKE-DANES: Yes. And just to follow on something that the chairman had been asking you, if one or two consultants were blaming another. If we leave that aspect out of it and one got into a discussion about Claire, there might be, might there not, a discussion about the SIADH or hyponatraemia more generally?

A. There might have been, yes.

Q. And if you're having that kind of discussion, that could go the way of talking about her fluid management regime and, if you're into the fluid management regime territory, then you're into actually how her care was managed.

A. Well, I ... You could discuss all aspects of a patient's care or all aspects of the clinical history

and the patient's illness and so on and so forth. It is included with the rest of the discussion. It's not that there is one specific point picked up and discussed more vigorously than the other.

Q. I understand that.

A. So there's a generic discussion of the whole disease process and how the patient presented and what transpired at autopsy.

Q. What I'm trying to get at from a sort of care management or governance point of view is: if it's a valuable forum to have people debating vigorously a child's case, but if that leads to concerns about a child's care, where does one go with that if one is thinking about the interests of the child and care management and governance? Where is that supposed to lead to?

A. Well, I'm not sure that that is for the pathologist to answer because the pathologist's job is to complete the autopsy, do the case and then present it as the findings as --

Q. No, Dr Mirakhur, I'm not suggesting that for some reason the pathologists have the responsibility for doing things. I'm talking about ... A forum has been created --

A. Yes.

Q. -- where this kind of debate happens.

A. Yes.
Q. And both you and Dr Herron have described it as very vigorous debate and you have acknowledged to the chairman that that can involve some clinicians, consultants, taking the view that others may be responsible for what happened to a child or, at least, some aspect of their deterioration.
A. Yes.
Q. And that's something that could happen. What I'm asking is, since you are a senior person there in your own department and have subsequently become head of that department, what is thought to be the appropriate way of dealing with that once that emerges?
A. I think it is up to the clinician how they take -- whether they see, whether there's any requirement to take it further or how they discuss it among themselves or what they put in and how they do actually deal with the particular problem.
THE CHAIRMAN: Doctor, can I ask you, who's the most senior person present at these meetings? In the terms of the hospital hierarchy, you've got a medical director.
A. The medical director is not present.
THE CHAIRMAN: Who would be the most senior person there in terms of the hierarchy?
A. I think it is a forum, it's not that there is a senior

person. They're all senior people of seniority and they're all consultants.

THE CHAIRMAN: But in terms of -- the point that Ms Anyadike-Danes was asking you about, if there are points which come out of this, which may or may not be issues about level of care, but which raise other issues about -- for instance, this emphasises yet again that there just aren't enough doctors on at night, which was clearly a problem when Claire was in for two nights.

A. That's right.

THE CHAIRMAN: If that emerges yet again at one of these grand rounds, is there anybody present who can take that on somewhere or does it involve the -- because there are people within the -- there were people in 1996 and are people now within the Trust who are responsible for trying to organise the Trust in a way which maximises patient care.

A. I think, if I can understand you correctly, you're meaning that there is -- whether there is senior admin kind of person present --

THE CHAIRMAN: It doesn't have to be an admin person, but there are consultants who also have managerial roles --

A. Which would be a medical director or a clinical director. The clinical director would be the person within the -- usually within the senior consultants who

are actually present.

THE CHAIRMAN: Okay.

A. So he may or may not be present in the forum, depending on who the clinical director is at the time.

THE CHAIRMAN: Mr Fortune?

MR FORTUNE: Sir, can we try a different tack? Although there is a presentation and we've got the pathway set out by Dr Mirakhur, is there actually a chairman who controls the debate and then sums up and then takes from the debate important points so that the hospital can act upon those points? Because I think that's what the chairman is aiming to elicit from you.

A. There's usually not a chairman. There are individual consultants who will stand up and discuss their own case.

MR FORTUNE: But isn't there somebody actually controlling the procedure so that it's not a free-for-all that gets out of hand?

THE CHAIRMAN: I actually get the impression it's supposed to be a free-for-all. There's why no minutes are kept, that's why there's no determined outcome and why there doesn't appear to be any defined action taken. We'll pick up this up in governance over the next week or two, Mr Fortune.

MR FORTUNE: Yes, but Dr Mirakhur of course was a prime

witness to this type of discussion.

THE CHAIRMAN: Am I right in understanding that when Mr Fortune used the term free-for-all, perhaps in a rather more polite and genteel way, it is a bit of a free-for-all?

A. All the senior medical consultants who are present and they're discussing and they are presenting their own case -- so it is not that there is one person who is actually responsible for the entire cases which are being presented in that particular meeting.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: There is one more question I want to ask just in relation to that and then, Mr Chairman, I think I will have asked all my questions subject to what anybody else might want to ask.

Dr Hicks, her discipline was in neurology; is that right?

A. Paediatric neurology.

Q. Is she somebody that would be within the core, if I can put it that way?

A. Yes.

Q. And she also had a position -- I think at some stage she was clinical lead.

THE CHAIRMAN: At the time of Claire's death, she had just taken over as clinical lead.

MS ANYADIKE-DANES: As you were saying, there might be people there with managerial positions. She, for example, would be one?

A. I do not know whether she was the clinical lead at that time. I'm not sure.

Q. But in any event, she would be there because she is part of the core?

A. Well, she's one of the core people. The core people are usually there, depending upon their other commitments, whether they're doing a clinic or something like that.

Q. Could the end result of all of this be an uneasy feeling and a suggestion that maybe we should refer a particular case to the coroner; is that possible?

A. That may be possible, but I don't recall any uneasy feeling at that particular time.

Q. I don't mean in relation to this one, but that's a possible outcome of the grand round?

A. Possible, yes.

THE CHAIRMAN: Have you ever known it to happen?

A. I have not known it to happen.

MS ANYADIKE-DANES: Mr Chairman, if I might have a few minutes?

THE CHAIRMAN: Doctor, if you bear with us for a few minutes. Ms Anyadike-Danes is going to check around the chamber to see if there are any more questions, but

you're almost finished. Thank you very much.

(12.56 pm)

(A short break)

(1.10 pm)

MS ANYADIKE-DANES: Dr Mirakhur, the description that was given of the grand rounds as "a bit of a free for all", that's not your description, I know, but people were trying to characterise the dynamic in those grand rounds. Are they like that still?

A. Yes.

Q. And are they recorded in any way now?

A. The attendance is recorded, who's present at the ward rounds.

Q. Is the outcome in any way recorded?

A. I don't know what is happening presently.

Q. Who is recording the attendance?

A. I don't know. Well, the attendance is recorded by the -- it's not recorded by the pathology department. It is usually recorded by one of the clinicians, who may decide on that particular day that they're going to record this.

Q. So that's at somebody's discretion?

A. Well, I think they decide probably among themselves on that specific day. It's not somebody's discretion in the sense that I might decide: I'm going to record it

today. I think there's a decision made in the group who's going to be recording that.

Q. But they are definitely recorded irrespective of who for that day --

A. I think the names are recorded.

THE CHAIRMAN: You retired two years ago, was it?

A. Yes.

THE CHAIRMAN: So you're describing now the position in the period immediately before your retirement?

A. That's correct.

THE CHAIRMAN: And what was different was that the names of the people who were present were being recorded whereas in earlier years they had not been?

A. Yes.

THE CHAIRMAN: Do you know why that came about?

A. That came about because one of the requirements was for the CPD, I think, the clinicopathological things. I think the clinicians still felt that it was for various vigorous and frank discussions.

THE CHAIRMAN: So in essence it's a deliberate decision not to have a minute or a record of what's said, isn't it?

A. Before the ...

THE CHAIRMAN: After. Correct me if I'm wrong, but it seems to me that a conscious decision has been taken not to record or minute what is said at these meetings on the

theory that that will allow or promote vigorous debate.
A. I'm not sure whether it was a conscious decision in that sense, but I think it was just felt that it might inhibit a very vigorous discussion if everything was just recorded at the time the discussion was taking place.
MS ANYADIKE-DANES: The other place where the inquiry was informed that a clinicopathological correlation happens is at the audit or mortality meetings --
A. Yes.
Q. -- that the paediatricians have. And Dr Herron said yesterday that he has, from time to time, actually attended some of those meetings and presented a case.
A. Yes.
Q. Have you done that?
A. Yes.
Q. Dr McKaigue said in his witness statement at 156/2, page 6, in answer to question 22, that Dr Steen presented Claire's death at the audit meeting at the Children's Hospital and that he was present at that. Did you attend any other meeting in relation to Claire?
A. Well, I remember attending the neurosciences ward round meeting, but I do not remember whether it was myself or Dr Herron who attended that -- the mortality meeting.
Q. Do you think that somebody from your department did

attend that mortality meeting?

A. That is the norm. That's the usual case, unless both people were involved in doing something else so they were not able to go.

Q. What happens at the meeting like that that is different from what happens at your grand round?

A. The grand round meeting is more for discussion and it's a learning and a teaching and a training exercise. Whereas the mortality meeting discusses probably the cause of the disease and the outcome of the disease and then the pathology, and the clinicians who are actually present in the mortality meeting are not the core neurosciences people. It is usually the paediatricians and anybody else who might have been involved in the care of the patient, but the paediatricians.

Q. Are those meetings, so far as you're aware, recorded in any way?

A. I think there's a record kept on those meetings. But I can't remember whether that was in 1996, that happened or not, I'm not sure.

Q. And do you know what the outcome of those meetings is to be?

A. The outcome of the meetings is usually to inform the clinicians of all aspects of the case, including the presentation, the clinical presentation, the disease

process and what has transpired during the stay of the patient in the hospital.

Q. When you were describing the grand round, you said the clinician came and would make a presentation, if not literally from the clinical notes, but from their own notes so there would be some detail in terms of the clinical aspects of the case, which generated a discussion before even the pathologists made their contribution. Is this mortality meeting another opportunity to discuss the case in detail?

A. Yes.

Q. Is --

A. Well, the clinicians present it. The format is very similar in that the clinician will present the case and then the pathology will be discussed and the findings will be discussed and all aspects of the case will be discussed. The only difference is that the core neurosciences people or the neurologists/neurosurgeons may not be present. If they're not involved in the care of the patient, they might not be there.

Q. So is it the reverse way round? In the grand round, the clinicians who are directly involved, who are not part of the core and who are directly involved in the case, are invited to that. When it's the mortality meeting, the pathologists who worked on the autopsy, they're

invited to that.

A. Yes.

Q. It's the other way round really.

A. Yes, that's right.

Q. Thank you.

MR FORTUNE: Before my learned friend moves off that topic, is there normally an order in which one takes place first? For instance, the grand round. So that the learning at the grand round is then taken to the mortality meeting or vice versa?

THE CHAIRMAN: Can you help us with that, doctor?

A. The mortality meeting usually happens before the grand round. The mortality meeting usually happens as soon as possible when the autopsy report is completed, but the grand round may not happen soon after the autopsy report is completed. But it's usually the mortality meeting happens -- usually happens -- and I say that usually happens before the grand round.

THE CHAIRMAN: Why?

A. Because I think it's a practice generally in paediatrics and also to some extent other areas as well to discuss the pathological findings of the autopsy at the time of these meetings.

MS ANYADIKE-DANES: If you've had your mortality meeting first and so you've had your discussion there, informed

by the notes and so forth, what is the sort of thing therefore that's generating such active discussion amongst the clinicians or robust discussion amongst the clinicians at the grand round? Have they not dealt with that at the mortality meeting?

A. The findings will be dealt with, but all the clinicians and all the trainees, relevant trainees, may not be present, including the pathology trainees, because for the grand round the pathology trainees go as well. They all may not attend the mortality meetings. In the mortality meetings, it's usually the relevant pathologist who will go.

Q. It's a much broader audience?

A. It's a much broader audience and it is more for the teaching and the training exercise than the mortality meeting is.

Q. Thank you.

Dr Herron yesterday -- I think I mentioned this to you -- when he was dealing with how low the low-grade sub-acute meningoencephalitis was, he scored it on a range of zero to ten, and he said he thought it was one or two. Are you able to do that?

A. Yes. I would think it would be nearly the same, one to two. I would maybe call it more two than one, but it's a matter of opinion.

Q. How high does it have to be before you can start to say that the inflammation or infection is a cause of death?
A. Well, it has to be at least above five, I would think.
Q. Thank you. Then I have a couple of other questions for you. One relates to a change between your draft autopsy report and the final one. We can pull up the two pages so that you can see -- I'm going to pull up the draft first, 090-054-187. Then next to it, if we can have 090-003-004.

You can see in your draft, I'm not saying it's the original because I'm not sure it is the original draft, but it is a draft anyway. And under that section on "Cortex and white matter", you had had:

"The thickening and cellular reaction in the meninges and perivascular space and the underlying cortex is present in places."

A. Mm-hm.
Q. That's been removed so that in the final version it says that:

"The thickening and cellular reaction is in the meninges and perivascular space in the underlying cortex."

As opposed to indicating that it might only be in a few places, if I can put it that way. Is there a particular reason for that change?

A. No, it is simply because it's a repetition. Because it says:

"Cortex and white matter. The sections show that there is focal meningeal thickening and a cellular reaction in the meninges and perivascular space."

When we describe "focal", it means "in places".

Q. Yes. So focused?

A. Yes.

Q. Thank you. The other point relates to your witness statement. If we take your witness statement 247/1 at page 20. If we can pull up alongside it 090-054-178. This is the day book, the record of material in and out.

A. Yes.

Q. You can see "cord times 2". Spinal cord, one might think, alongside 1 May 1997. Then there's a query about that under question (f).

A. Yes.

Q. And you are being asked to explain that. You say:

"'Cord times 2', which is spinal cord, is most probably an incorrect entry as this was a brain-only autopsy."

A. Yes.

Q. How the query arises is if we can now pull up instead of the 090-054-178, if we can pull up 247/2, page 8.

THE CHAIRMAN: Dr Mirakhur's next statement?

MS ANYADIKE-DANES: Yes. You can see under "Spinal cord":

"This is normally formed. The tissue is oedematous."

Then the underlined part:

"Dr Harding describes no major downward shift of brain or cerebellum. He also states that the sections from spinal cord are unremarkable."

That sounds very much as if he has seen material from the spinal cord.

A. It is quite likely because when you remove the brain, the upper end of the cervical cord usually comes away with the brainstem, so what we went was incorrect entry, that the full spinal cord was not removed. It was only the bit which is attached, the upper bit which is attached to the brainstem.

Q. Sorry, where is that referred to?

A. Well ...

THE CHAIRMAN: The witness is explaining, I think -- the doctor is answering your query about how it could be that Dr Harding has said that the sections from the spinal cord are unremarkable and you're suggesting that they would actually have become part of the original --

A. I think what I'm saying is that the entry on the day book say it is, "spinal cord times 2", which is an incorrect entry because the entire spinal cord was not

present. It was not removed because it was a consented brain-only autopsy. But when you are removing the brain from the top, a bit of the upper -- very, very upper -- cord, which is in junction with the brainstem, comes away with the brain. It is actually because part of it is actually above the thing and the rest of it is in the neck and way down in the back. So very often that happens. So what Dr Harding may be describing was the upper end or the bit of the upper end of the cervical cord which is attached to the brainstem. But it's not the rest of the cord. The full spinal cord was not removed.

THE CHAIRMAN: So that doesn't help us explain what the wrong entry was about because --

A. The wrong entry was about that it was not the full cord. What they should have said is: junction of brainstem and spinal cord times 2.

THE CHAIRMAN: Sorry, that's a mistake?

A. Rather than the "spinal cord 2".

MS ANYADIKE-DANES: Sorry, can you repeat again what they should have said?

A. They should have said "junction of brainstem and spinal cord" rather than "spinal cord 2" because I think that suggests that the entire spinal cord was there.

Q. And do you know how much of the spinal cord is likely to

have been there to allow him to make those sorts of comments? Obviously we can ask him that.

A. It could be a very tiny portion, but you could say that it is spinal cord.

Q. But it would not be intended that any part of the spinal cord had been --

A. It's not a question of intended, it happens naturally.

Q. Other than would happen in the natural way. I'm not trying to take --

A. If you're removing the brain, the brainstem and the cord are connected to each other; it's not that they're lying separately. So you remove one and you don't remove the other. The bit of the cervical cord which is attached to the brainstem invariably comes out with the brain when you're removing the brain. But you're not removing the entire spinal cord, which has to be done from the back, whereas this can come out while you're removing the brain from the skull.

Q. Even the small part that you have, is it a relevant thing to describe?

A. Well, you can either describe it or you can describe it together with the brainstem.

Q. That's what I'm getting at. Is it something that should have been described in the section of your report on brain description?

A. I think we described it with the brainstem. We described the entire thing, which we probably saw with the brainstem.

MS ANYADIKE-DANES: Thank you.

THE CHAIRMAN: Okay.

MR FORTUNE: Sir, can I follow on with one matter? Because it's just occurred to me. You've expressed a real interest in the absence of notes at these grand round meetings and indeed at the mortality meetings at the time. Perhaps the question needs to be asked of Dr Mirakhur -- or more particularly in governance -- as to whether a possible reason for there being an absence of notes was based on advice from the Trust within the Trust, perhaps from managers, or indeed from the Trust solicitors on medico-legal grounds, so there could be no disclosure of such notes in any civil action or any other reference to a statutory body like the General Medical Council.

THE CHAIRMAN: Okay. Can you help us on that, doctor?

A. I don't know. I can't answer.

THE CHAIRMAN: Were there always grand rounds during your career?

A. Yes.

THE CHAIRMAN: And they were never recorded or minuted?

A. As far as I can remember, and certainly the pathology --

well, as far as I can remember, yes, they were not recorded.

THE CHAIRMAN: Okay. We'll come back to it in governance, Mr Fortune.

Doctor, that concludes your evidence. Thank you very much again for your time.

A. I would like to take this opportunity to express my sympathy to the family and the distress which may have been caused as a result of the details of the pathological findings.

(The witness withdrew)

THE CHAIRMAN: Thank you very much indeed.

Ladies and gentlemen, we'll sit again at 2.15 and start Dr Webb.

(1.30 pm)

(The Short Adjournment)

(2.15 pm)

DR DAVID WEBB (called)

Questions from MS ANYADIKE-DANES

MS ANYADIKE-DANES: Good afternoon. Can I call, please, Dr Webb?

THE CHAIRMAN: Doctor, I'll say this to you now -- and I should have said it to Dr Steen when she first came to give evidence -- that whatever else the inquiry throws at you, I'm very glad that you're well enough to attend

and that Dr Steen was well enough to come back to us.

MS ANYADIKE-DANES: Good afternoon, Dr Webb.

A. Good afternoon.

Q. Do you have a copy of your CV handy there?

A. I do.

Q. We'll come to it in a moment. You have made three statements for the inquiry. The series number, for the record, is 138. The first one was dated 14 March 2012, the second is dated 18 September 2012. The third is dated October 2012, but no specific day. That's in relation to Claire's case.

A. That's correct.

Q. So do you wish to adopt those statements as your evidence, subject to anything that you say now in this oral hearing?

A. I do.

Q. You were also due to give evidence in an earlier case, Adam's case, but you were unable to do that. So we are going to try and inconvenience you as little as possible by trying to take all your evidence together, so there will be some matters that relate to Adam, some that relate to Claire, both from the clinical point of view and also the governance point of view. I'm afraid it's a bit of a tall order and we'll try to do what we can to minimise the inconvenience of it. But that's the

compass, if I can put it that way.

For those who are trying to follow their way through the lines, there's an area that we wanted to explore with you in Adam's case, which relates to the brainstem-death test and the completion of that form. There is a similar area to be addressed in relation to Claire's case and we are going to deal with those two things together at the end, just to avoid repetition.

A. Okay.

Q. So the fact that I haven't mentioned it doesn't mean that we are not going to ask you about it; it's just probably easier to do it in that way. If you have your CV there, the reference is 306-043-001. I will take you to page 003 of that. You were appointed a consultant paediatric neurologist in August 1995; is that right?

A. That's correct.

Q. You have come up through the Royal, you were in the Royal immediately preceding that, I think.

A. No, this is --

Q. Not literally. Immediately preceding that you were in British Columbia.

A. That's correct. This was my first appointment in the Royal.

Q. This was your first appointment in the Royal, I beg your pardon. If we deal with that British Columbia period,

that's almost exactly a year. And there has been some reference in Claire's case to a certain anticonvulsant therapy that you prescribed, midazolam.

A. That's correct.

Q. And you refer to going to check your notes because it was a therapy that you had used or had some experience of when you were in Canada. Is that the time that you're referring to?

A. That's correct.

Q. And can I just ask you what exactly your work involved in that year?

A. I was working as a fellow in paediatric neurology, so there were four fellows and we provided the care for the children with neurological problems in British Columbia Children's Hospital.

Q. And what size of children's unit would that be?

A. It's the main teaching hospital in British Columbia, so it's a very large unit. I can't recall how many beds, but close to 200 beds, and there would have been a paediatric ward of 12 beds.

Q. Thank you. Then you came from there to take up your consultancy in the Children's Hospital in Belfast.

A. That's correct.

Q. At that time, how many consultants in paediatric neurology were there if you can remember?

A. In Northern Ireland?
Q. Well, at the Children's Hospital.
A. In British Columbia?
Q. Here in Belfast.
A. In Belfast, sorry. I joined one person, Dr Elaine Hicks. Dr Hicks had been a consultant on her own here for a period of time. So there were two of us. That's two paediatric neurologists for the Province.
Q. At the time you joined, which is August 1995 -- and if you can't recall that's fine -- can you give us some idea of how many registrars there might be in that department?
A. There was one registrar and one SHO. It was a very busy post because you're essentially providing neurological cover for the entire province. So we regularly received calls from other paediatricians round the Province. You were also dealing with the neurosurgical cases over in the main hospital, the Royal, the adult hospital, rather, and the neonatal intensive care unit and post-natal wards -- we were also consulted on.
Q. That's your the four of you?
A. There were two of us.
Q. Four people in --
A. Yes, that's correct. In fact, the registrar and SHO would not have gone to the neonatal unit or to the

neurosurgical ward; it was really myself and Dr Hicks that would have done that.

Q. I understand.

THE CHAIRMAN: Sorry, just to get it clear, doctor: when you say you were also dealing with the neurosurgical cases in the main hospital, those are adult patients?

A. No, they're children with head injury who are moved over.

THE CHAIRMAN: For surgery?

A. Yes, exactly, or observation.

MS ANYADIKE-DANES: Just following on from what the chairman has asked you, was your neurological unit within the Children's Hospital?

A. Yes. There was a ward on the Children's Hospital.

Q. And who was your clinical lead at that time?

A. There were two of us. Dr Hicks was the clinical lead, I guess.

Q. I'm just trying to see how it fits -- that was a specialism within the whole Children's Hospital?

A. Yes. It was a new specialism at the time in a sense. Paediatric neurology has evolved from general paediatrics like most of the specialties have and it was quite a young specialty, really.

Q. The reason I ask is when we were asking about just that sort of line of responsibility in relation, for example,

to the paediatric anaesthetists, it wasn't entirely clear -- well, their reporting lines seemed to be both within the Children's Hospital and -- in terms of anaesthesia -- and perhaps also outside the Children's Hospital because they straddled two areas. I'm just trying to see whether it worked that way for your department.

A. No, it was very much within the Children's Hospital, so our line would have been to the clinical director.

Q. Thank you. So by the time you became aware of Adam, you had been a consultant for about three months?

A. That's correct.

Q. By the time you became aware of Claire, you'd been a consultant for about 14 months?

A. I can't remember when the Adam Strain case was, but yes. 14 months --

Q. That was November 1995, Claire is October 1996.

A. Okay, yes. That's correct.

Q. You've now left and you're now in the south?

A. That's correct.

Q. In fact, I think you left in September 1997; is that right?

A. That's correct.

Q. Just very briefly, in terms of your other responsibilities, we can see that at 004. All this

seems to post-date Claire's admission, so your teaching starts in 1997, both undergraduate and postgraduate. And you were a member of the ethics committee in 1998. Can I ask you briefly what that involved?

A. The ethics committee in Our Lady's hospital in Crumlin would meet on a monthly basis to review research projects that were proposed. So that was the basis of it.

Q. It's specifically in relation to your research?

A. It was in relation to research being done in the hospital, so other physicians would present their material to the ethics committee for approval.

Q. Not the conduct of clinicians?

A. No.

Q. And then your research really starts in 1997 as well?

A. I had done research actually during my training period, so I did a thesis during my time in Bath, back in 1993/94.

Q. And then if we look at point 6 under your research, "The value of sleep EEG record in predicting seizure recurrence after a first afebrile seizure in childhood". Your research period spans from 1997, at least on this CV, until 2012. When were you carrying out that kind of research?

A. Well, I've always been interested in research. As

I said, I did some research during my training.
Q. I meant that specific issue.
A. Sorry. That's been going on over the last 12 months.
Q. So that's fairly recent?
A. Yes.
Q. And then if we just deal with audit. "Hospital chart audit"; is that something that you created?
A. Yes.
Q. What is that that you have created?
A. I wasn't terribly happy with the chart in Crumlin and I made -- we formed a committee and designed a new chart.
Q. So what do you mean by that?
A. Well, literally that. We took the existing chart, reviewed it, made some suggestions as to how we could improve it.
Q. Which chart did you take?
A. The hospital chart in Crumlin hospital where I was working at the time.
Q. There are a number of different sorts of charts. Is it the fluid balance chart, for example?
A. The clinical notes.
Q. Just the clinical notes.
A. So I -- the clinical notes, which are referred to as the hospital chart, we redesigned a chart essentially. We

sought opinion from various -- from the physicians working in the hospital and we produced a new chart and then audited before and afterwards. And there was a clear improvement in how the chart was used and --

Q. And how did those charts compare with the charts that you had been used to at the Children's Hospital? Before you --

A. Well, the main adjustment that we made was to divide the chart into six different sections and that was being very useful in terms of just -- the ease of finding material in the chart and locating material. I think the chart that I came to when I went to Crumlin was very similar to the ones that were actually in Belfast.

Q. Does that mean from your point of view the charts in the Children's Hospital might have benefited from some redesigning?

A. Perhaps. Yes.

Q. And that was so in 1995 and 1996?

A. Yes.

Q. And when you left, so far as you're aware, they hadn't been redesigned in any way?

A. I don't know. I haven't --

Q. So far as you're aware.

A. Not as far as I'm aware.

Q. In terms of the connections, what was the connection

between paediatric neurology and adult neurology. Did you meet your adult counterparts?

A. Yes, we met on a weekly basis at a clinical meeting on a Friday morning where we would present children or adults to the full neurology group, which would include neurosurgery, adult neurologists, neurophysiology, and ourselves.

Q. I want to ask you a bit about meetings. I think in one of your witness statements -- I think it's 138/1, page 2 -- you talk about holding weekly multidisciplinary rounds and neuroradiology conferences at the Children's Hospital. Dr Mirakhur and Dr Herron have given evidence about grand rounds and, for example, they say that there was a grand round in relation to Claire. Can you describe what a grand round was and how it operated?

A. A grand round, as I recall it, would be usually a clinical round at which we would present a child's clinical history and the child's investigations and management. And it's usually a learning point for undergraduates or indeed postgraduates. Occasionally, there would be a grand round that would involve a death, but I don't recall that occurring in Claire's death, and if it did, I don't recall being asked of it.

Q. Well, would you typically go to grand rounds?

Dr Mirakhur said these grand rounds would occur on a Tuesday typically.

A. Yes. I can't recall my schedule for the week, to be honest, but I would have -- if it was a choice, I would have attended a neurology grand round on a Friday morning rather than the paediatric grand rounds.

Q. Is there a reason for that?

A. It may have been that there was a clinic. I don't know. My preference would have been to go to the neurology grand rounds. I'm sure I did attend the paediatric rounds on occasions. I just can't recall.

Q. I want to make sure we're not talking about two different sorts of things. In the way that Dr Mirakhur has described it, this is a grand round where all those involved across the neurological services, if I can put it that way --

THE CHAIRMAN: She described it as the core neurosciences group.

A. That would be the Friday morning meeting.

MS ANYADIKE-DANES: Is that what you're talking about?

A. Yes.

Q. And you're saying that you --

A. I certainly would attend that.

Q. That's exactly what I am asking you. And she, in her view, prepared slides for that in relation to Claire and

both she and Dr Herron think that there was one in relation to Claire and typically what would happen is that the core group across the neurosciences would attend as a matter of course, unless they couldn't for some reason, and then they would invite any of the clinicians who were relevant to the children's cases that were going to be discussed. So for example, in Claire's case the referring clinician or her consultant is the sort of person who might be invited to attend.

She doesn't particularly remember whether you were there, but she was of the view that you would be the sort of person who would be considered part of the core.

A. Absolutely, yes, and I don't recall that.

Q. You don't recall attending something in relation to Claire?

A. No, no, and I would have thought it would be very strange for it to go ahead without me attending, if you like.

Q. She also said that those grand rounds formed part of the clinicopathological correlations and they were an important part of trying to understand in that multidisciplinary way what had happened to a child. Would that --

A. Yes, that's right.

Q. -- accord with your view?

A. Yes.
Q. Whether or not you can remember going to one in relation to Claire, is it something that you would have considered appropriate to have in relation to Claire?
A. Yes.
Q. And would you have wanted to go to it?
A. Yes.
Q. She also said there were other meetings, which are the mortality meetings. And Dr McKaigue has referred to that and he said there was one in relation to Claire because he remembers Dr Steen presenting at it. Would you attend those sorts of meetings?
A. That meeting would have been in the paediatric hospital --
Q. Yes.
A. -- and again, that would depend on whether it clashed with my schedule. I'm just not certain what time that was or --
Q. So not necessarily?
A. So I may not have made that one routinely.
Q. Yes. I just want to ask you one or two brief questions about Adam's case and then the other matter, we'll leave until it can be dealt with together with the related matters in Claire's.
The reference is 058-035-140. You had a diagnosis

of "osmotic disequilibrium syndrome" in relation to Adam. What does that mean?

A. In relation to Adam, I was asked to see Adam while I was at a clinic in Derry. The conversation included the description of his care and the fact that he was found during surgery to have fixed and dilated pupils. And I was given to understand that the reason for this was unexplained. So when I saw Adam that evening and I returned to the Royal, I spoke to the staff, the nursing staff, and I think a member of the anaesthetic staff, I'm not certain. My understanding was that it was still unexplained why he had deteriorated in the way he had.

So I went to -- there was a room in the Children's Hospital where they had a computer with a CD-ROM. This CD-ROM included PubMed, so each year the publications for each year were included on a disc. I tried to see was there any other explanation that might explain the situation in somebody who had renal impairment. And osmotic disequilibrium is a syndrome that's associated with abnormal management of urea, if you like, and has been described following dialysis. So I speculated it might be one explanation for Adam's presentation, which to me, as I understood, was unexplained.

Q. Let me pull up the right reference for you.

058-035-140, I think. That seems to be wrongly entered because it's showing "12" on the bottom, so there's a problem there. Never mind. We'll come back to it.

In any event, that's how you described it. You say the reason you got to that analysis or at least that description of what might have happened to Adam was on the information that you received and you were trying to seek some sort of explanation?

A. Yes.

Q. Can you remember who actually contacted you?

A. I can't. I don't know.

Q. I think in fairness to you, I think in your witness statement of -- let's hope this is right -- 107/2, page 4, you were unaware of his sodium levels and therefore you were unaware that he actually was hyponatraemic.

A. That's correct.

Q. So do I understand you to say that you were --

THE CHAIRMAN: Sorry. The witness statement -- was it 107?

MS ANYADIKE-DANES: 107/2, page 4.

If you look under (a) about five or six lines up from the bottom:

"I do not think I was aware of the low sodium level recorded in the notes ... I am fairly sure no one informed me that the sodium level was so low because if

I had been aware of the low sodium, I would have considered hyponatraemia to be the likely cause of the fluid shift and I would not have had to go and conduct research to find an explanation."

So you were trying to find that explanation in the absence of knowing that he was so hyponatraemic?

A. That's correct.

Q. And if you had realised his sodium level was at that level, then you wouldn't have been trying to look at things like osmotic disequilibrium syndrome?

A. Absolutely.

Q. And would that have been a perfectly straightforward, "He's hyponatraemic"?

A. It would be a perfectly reasonable explanation for cerebral oedema --

Q. Yes.

A. -- in the context of surgery and --

Q. Were you aware at the time that dilutional hyponatraemia could lead to cerebral oedema?

A. I was aware that hyponatraemia could lead to cerebral oedema. I wasn't aware of the concern about the particular fluids that were being used.

Q. No, I don't mean the particular fluids. Let me put it in a different way.

Were you aware that the administration of

considerable quantities of low-sodium fluid over a relatively short period of time could lower the serum sodium levels and could result in cerebral oedema?

A. Well, in somebody who was normal, that shouldn't happen. If the person has SIADH, then it will happen. So you can tolerate low-sodium fluids as long as you have normal renal function. But if you have SIADH at the same time, then you get into trouble.

Q. Does it make any difference if you also have no proper renal function?

A. Absolutely.

Q. If you're polyuric, does that make a difference?

A. That's the important point. Renal function is crucial.

Q. If you've got a child who is polyuric and you administer considerable quantities of low-sodium fluids in a short period of time, would you have a concern that that could lead to dilutional hyponatraemia and could lead to cerebral oedema in that scenario?

A. Yes, if the -- the polyuria would suggest that you're actually losing a lot of fluid, so if you're not losing sodium as well, it shouldn't cause a problem. I think it's particularly in the context of renal impairment surgery and SIADH that I would expect that.

Q. And why is it the surgical element?

A. Surgery is one of the things that can cause SIADH.

Q. So from your point of view, it was your understanding that that particular sequence of events is what happens if you've got SIADH present for some reason?
A. It could occur, yes.
Q. So it doesn't necessarily happen in the absence of SIADH?
A. That's correct, unless you have renal impairment.
Q. Then I think you said that you had no knowledge of the inquest findings in the case of Adam Strain.
A. That's correct.
Q. The reference for that is 138/1, page 93. Do you know why you didn't hear what happened to Adam?
A. No.
Q. Would you have expected to?
A. Not necessarily.
THE CHAIRMAN: If Adam's case, death, had been discussed at a mortality meeting and --
A. That would be in the paediatric hospital?
THE CHAIRMAN: Yes -- and then there's an inquest which -- our understanding of exactly what was being accepted or not accepted at the time of Adam's death is a little bit clouded. But at the time of the inquest the following spring, there was a verdict which was, at least on its face, accepted by the hospital even though there was some internal issue about whether it was accepted by

every individual. Is that not something that you would have preferred to know about, or would you?

A. I don't know that it would have come to my attention if it was a surgical case and it was a nephrology issue. If it had some neurological angle, then I think I would have, but really my role was to, I think, assist them in doing the brainstem testing. That's the principal reason I was there. So I wouldn't have expected to be informed of it. I would like to have known of course, but I ...

MS ANYADIKE-DANES: Ultimately, I suppose you might say it was a neurological issue; the reason he died was because he developed cerebral oedema.

A. Yes, but it was a complication of his surgery.

MR FORTUNE: Sir, following on from Dr Webb's involvement in the brainstem death test, would that in itself mean that Adam's case was discussed at the neurosciences grand round? What are the criteria for such a discussion or the inclusion of case for such a discussion?

THE CHAIRMAN: You're shaking your head, doctor.

A. It wouldn't have been discussed at the neuroscience meeting on the Friday morning.

MS ANYADIKE-DANES: We've heard about your neuroscience meeting on the Friday morning; we've heard about

Dr Mirakhur's grand rounds on a Tuesday. Is there a difference between the two?

A. I think she was referring to the Friday morning meeting. I could be wrong, but I thought that was what she was referring to because that's the meeting that the neuroscience people -- the neuropathology, neurophysiology, neurosurgery and neurology -- would all meet at, but I'm not certain.

THE CHAIRMAN: She did refer to her meeting as a Tuesday meeting.

A. I'm not sure what meeting she's referring to.

MS ANYADIKE-DANES: What is the criteria for -- let's call it a grand round because I think you understand what that means. What's the criteria for a case to be included there?

A. That it would have some teaching benefit. That's the principal criterion.

Q. Who determines that?

A. Usually the consultant involved in the team and care of the child.

Q. Was it not thought that Adam's case had some teaching value? It certainly led to Alison Armour, who carried out the autopsy for the coroner, producing a paper on it. It led to Professor Arieff providing an editorial in relation to it. Was it not thought there might be

some teaching element to Adam's case?
A. I can't speak for the nephrology team.
Q. Oh, I see. So it would have to be the consultant in charge of the child's case who would consider that that had the requisite teaching benefit to refer it to the grand round?
A. Yes.
Q. And could anybody else who was involved in the case who thought it was interesting refer it?
A. I think so. It could be recommended to the lead consultant.
Q. Well, was there anything of interest in Adam's case that you thought might have warranted a discussion at a grand round?
A. I don't recall at the time that ...
Q. You now know more about Adam's case than you did at the time. With the knowledge that you have now, is it a case that you think would have warranted that kind of discussion?
A. I don't know. Um ... I think it's a case that could have been presented at grand rounds, but I do not know whether the team at the time would have felt that was -- would have been of benefit.
Q. And if it was one that could have been presented, why do you think that?

A. Sorry, I don't understand the question.
Q. You have said you thought it was a case that could have been presented at the grand round because I was asking your view. I'm simply asking you why do you think that.
A. Because there could have been educational benefit from it.
Q. And if that had happened, leaving aside any other means of disseminating the learning points from Adam's case, that in and of itself would have assisted?
A. Yes, looking back on it, yes.
Q. I'm going to move from Adam's case now because the next place to go with it is actually in relation to the brainstem issues which I want to cover later on. Somebody might want some to cover other points of Adam's, in which case they'll raise them with me over the weekend.

If I can go on to 22 October 1996. I think your evidence is that you were working in the hospital then and your hours will have been 9 am to 5 pm; is that right?
A. I was usually in around 8 o'clock.
Q. Sorry. Is that when you came in to prepare for the day or that's when you were supposed to be there?
A. That's when I prepared for the day.
Q. If you had a typical day, when would you typically

leave?
A. I was usually home by about 7.
Q. When does that mean you left the hospital?
A. About half six, 6.40.
Q. Okay. As I understand it, you were on call every other week and that meant that you were on call every night of the week of the 21st, 21 October being the Monday?
A. Yes.
Q. So you would have been on call the evening of Claire's admission --
A. That's correct.
Q. -- and on the Tuesday, when she deteriorated and ultimately suffered her respiratory collapse in the early hours of Wednesday. That evening, you would have been on call.
A. All that week.
Q. Is that part of the reason that you -- just so that we're clear about what "on call" means. Is that part of the reason you were contacted because you were actually on call that evening?
A. Yes.
Q. How clear a recollection do you have of the events of 22 and 23 October 1996?
A. I have some recollection of the events, talking to Dr Sands, meeting Claire's grandmother and her mother.

Q. So you have some independent recollection?
A. Yes.
Q. And the rest is something that you've gathered from the medical notes and records and perhaps discussions with your colleagues?
A. Exactly.
Q. You say that you have some recollection of talking to Dr Sands. Doing the best you can, can you remember when you first spoke to him about Claire's case on the 22nd?
A. I have difficulty with when I first spoke to him. I know that he says I spoke to him shortly after the grand rounds -- sorry, just shortly before lunchtime. And I don't recall that conversation, but I think it may have happened. There was a meeting, as I recall, that day, which I think I actually was speaking at. That was a lunchtime meeting.
Q. When would that lunchtime meeting start?
A. I think it would have run from quarter to one until half one. I have a recollection of coming out from that meeting and having the relief of having given the talk, it was over, and meeting Dr Sands and going into a room to discuss a case with him.
Q. Yes. If I can ask you in this way: apart from going to give your talk during the lunchtime, can you recall what you typically do on a Tuesday when it's one of the weeks

in which you're at the hospital? Do you have a ward round, for example?

A. We would have had a ward round most days, unless you were doing clinic.

Q. When would your ward round start typically?

A. Typically, I can't recall exactly, but it would have been between 9 and 10.

Q. Is that fairly standard across the hospital?

A. Yes.

Q. That's typically when consultants start their ward rounds?

A. Yes.

Q. And your ward round would have involved your registrar, SHOs?

A. I think the registrar actually was away, but the SHO and, if there were students, they would join us.

Q. And again, doing the best you can, roughly when would you anticipate that you would finish a ward round?

A. Somewhere between 11 and 1, depending on the number of patients.

Q. So for this particular Tuesday, what might have happened is that most of your morning was taken up with your ward round and then presumably you would have gathered your papers or whatever it was and gone and presented your talk?

A. Yes.
Q. And if anybody wanted to reach you because they needed some guidance from you or for some other reason, prior to that lunchtime talk, how would they do that?
A. I believe I had a pager, so they would page me and I would then ring the number.
Q. And given that the paediatric neurological team was such a small team, was it quite common to be paged and to be asked to provide some expert opinion or guidance on some aspect or other of another child's case?
A. Absolutely. And it was from, as I said, from all over the Province. It could be phone calls from other paediatricians, from other physicians in the hospital and occasionally junior doctors.
Q. Is it at all possible that you had a call like that from Dr Sands at least in relation to the administration of diazepam?
A. Yes.
Q. And then that was followed up perhaps by a chance meeting or some arranged meeting in the corridor after you had finished your talk?
A. I think that is possible, yes.
Q. Because you'll probably appreciate the time when the diazepam was administered and one of Dr Sands' concerns was to actually seek your view as to whether that's what

he ought to administer at that stage.
A. Yes.
Q. So that would seem to fit with you, would it, that that might have happened?
A. Yes.
Q. You've got no recollection of it?
A. I don't, but it may have happened, yes.
Q. Thank you. Then if we can -- because I think you do seem to have a bit of a recollection of the meeting in the corridor, if I can put it that way.
A. Yes.
Q. Can you help us with what exactly was happening then or what he was seeking from you, what he was telling you?
A. My recollection was that he asked me for advice on management of a child who he thought had non-convulsive seizures.
Q. Did he tell you why he thought the child had that?
A. It was his clinical impression.
Q. I know that, but did he explain to you why he thought that?
A. He talked about her having fluctuating level of consciousness.
Q. Okay.
A. And that she had a previous history of having had seizures in infancy and having learning disability.

Q. What did he want your guidance on so far as you can recall?
A. On the appropriate treatment in that situation for that condition.
Q. What did you advise him?
A. Well, at the time I would have said to him that, on the first contact, that rectal diazepam was appropriate. On the second occasion, I wouldn't have given advice straightaway until I'd seen the child. But we discussed the differential, if you like.
Q. I'm going to ask you about that. How did the question of encephalitis/encephalopathy actually arise?
A. That would have been within the differential. I think the child's background history is very important.
Q. Yes.
A. And in Claire's care the top of your list, really, in somebody who's had previous seizures and epilepsy would be that this was a reoccurrence of her epilepsy. So that's -- and in the context of non-convulsive seizures, the child presents as encephalopathic, they're not behaving normally. So that's really where encephalopathy would have come from.
Q. What led you to the encephalitis aspect?
A. Encephalitis is implying that there's inflammation or infection in the brain and that certainly would be

a differential of that presentation.
Q. Yes, but I imagine there's any number of differentials that one might have. Why did you think that on the basis of whatever it was that Dr Sands told you?
A. He would have described to me that Claire had presented with vomiting and I don't think he mentioned anything in relation to her bowel motions, but he described her having vomited the previous day prior to admission. So that raised the issue for me that she had a gastrointestinal illness, and that would be a common trigger, if you like, for epileptic seizures, infection.
Q. Did you ask anything about how she had been treated so far or what tests and results had been carried out?
A. Yes, and I have a good memory of this actually.
THE CHAIRMAN: Is this still at the point before you've actually gone to see Claire?
A. Yes.
THE CHAIRMAN: Are we working on the assumption that you have spoken to him late morning, approved the diazepam, and this is the meeting some time in --
A. It's around 1.30.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: This is the corridor meeting?
A. We stepped into a room, I'm fairly sure, actually. Sorry, the question was?

Q. I had asked you whether he told you anything about her results or what investigations or such treatment she had --
A. I believe he told me that her white cell count was raised, which would have supported the suggestion of infection. I specifically asked in relation to her glucose and sodium.
Q. Her glucose and sodium?
A. Yes.
Q. And what did he tell you?
A. Her glucose was normal and her sodium was 132. And I remember saying to him, "Well, that would not explain Claire's presentation at the moment".
Q. Did he tell you when the tests that produced those results had been carried out?
A. No, he didn't.
Q. What did you understand about when they had been done?
A. My understanding was that they were done that day because my question related to her presentation today and he had just examined her.
Q. Before you go on to the other elements of testing and so forth, can I just ask you, in terms of blood results or blood tests that are done for the ward rounds, when do you understand the bloods are taken, the tests done and the results are made available typically?

A. In my experience in the hospitals that I worked in prior to the Royal, if a child was put on intravenous fluids on an evening, then the blood test was done the following morning. That would also have been my practice in the Royal. So my expectation would have been that there would have been a blood test done that morning.

Q. So therefore, if you were being told, "I've just seen the child, this is how she presents to me", you ask what her serum sodium level is and he tells you 132, you are thinking that that's come from tests done in the way that you have just described?

A. Yes.

Q. Would you have wanted to know that that test actually resulted from a sample taken the previous evening?

A. I should have raised that with him, but I didn't.

Q. Yes, but would you have wanted to have that information?

A. The timing of the test?

Q. Yes.

A. Yes.

THE CHAIRMAN: Sorry, doctor, are you saying that with the benefit of hindsight, you should have checked with Dr Sands when the blood test, which gave the reading of 132, was carried out?

A. Yes, I'm not blaming Dr Sands.

THE CHAIRMAN: No, I understand that.
A. My understanding was it was done that morning, but I made a mistake.
MS ANYADIKE-DANES: And I think you then went on to say that you would have wanted to know; it's not just that you should have asked him. That was information you would have wanted to know.
A. It would have been unlikely that the test would have been lower than that, than the 132. So it wouldn't have concerned me greatly that the sodium was on admission because if it was 132 that morning, it's unlikely that it would have been very different.
Q. Yes, but if it had been actually 132 from the 9.30 of the previous evening, you might have wanted to know: how do we stand now at lunchtime the next day?
A. Yes.
Q. Because depending on what had happened to that sodium level, given -- did you know she was on IV fluids?
A. Yes.
Q. Depending on what had happened to that sodium level, it might have affected how you started to formulate your thoughts as to what was wrong with her.
A. Yes, but a sodium of 132 would not have created great concern.
Q. No, sorry, that wasn't the way I put it. 132 at 9.30

the previous evening, you might have therefore wanted to know, "What is it now?", or, "What was it this morning?", so after a number of hours --

A. As I said, I understood that it was 132 that morning.

Q. That's why I'm saying you might have wanted to know that because, had it been significantly lower, that might have made a difference to how you started to formulate your differential diagnoses.

A. Absolutely.

Q. And that's the significance of knowing that.

A. Yes.

Q. So you knew about the tests that had been done, you knew she was on fluids, you knew in those terms the results there were in relation to those tests. Was there anything else you wanted to know before you went to see the child?

A. I think we went over her background history, her medication that she had been on, her presenting history and his examination and the investigations that had been done to date. I think that was probably it.

Q. Did you want to know more specifically, apart from the serum sodium levels, what blood tests were actually taken, or what blood tests were carried out, I should say? You knew about the white cell count.

A. I felt the important ones, acutely, were the glucose,

the white cell count and the electrolytes.
Q. Would you have wanted to know if there was a differential carried out in relation to the white cell count?
A. The differential would be occasionally of benefit, but often not terribly helpful actually.
Q. Would you have wanted to know if one was done?
A. I wouldn't have gone chasing a differential.
THE CHAIRMAN: So if you asked what the white cell count and he told you, then you wouldn't follow it up unless he raised a flag about it?
A. No, I wouldn't because it's not terribly helpful ...
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: In the lab report that we've seen of those blood tests, there doesn't appear to be a space, if I can put it that way, to show the differential. Was that your experience that, in 1996, the reports just didn't do that unless you asked specifically for that to be shown?
A. I don't recall that there was an issue around differential white cell counts, but I may be incorrect.
Q. No, do you recall if you had reports that routinely showed that or did you have to specifically ask for it?
A. No, I thought -- I would have expected that they would routinely show the differential, yes.

Q. Thank you. He seems to have communicated quite a bit of information about Claire.
A. Yes.
Q. Perhaps as much as he had at the time.
A. Yes. That's right.
Q. At what point did you think, "I should see this child"?
A. I think I went to see her very quickly actually.
THE CHAIRMAN: Was he asking you to see her?
A. He was asking me for advice about the management of the seizures and he wanted my opinion on Claire. So I said yes, I would see her.
MS ANYADIKE-DANES: So was it you who decided this is a child I ought to see before I actually advance an opinion about her?
A. No, I think he wanted me to see her.
Q. And did you have a sense of how quickly perhaps you ought to be seeing her in the circumstances?
A. It would be a child, from that story, that I would want to see within the hour, really.
Q. Sorry?
A. Within the hour.
Q. Yes, but I don't know whether that's urgent. That might be extremely urgent for you, given your busy day.
A. It wasn't a situation where we were running down the corridor, but it was a situation where I was seeing the

child within a reasonable time frame and it would depend on what I had to do otherwise.

Q. Was that because, from the description that you'd received, you had concerns about her?

A. Yes.

Q. And were you able to form a view even at that remove as to how ill you thought she was?

A. I think even at that point I would have been thinking that this was probably a reoccurrence of an epileptic tendency in a child who was at risk of that. That's a reasonably common scenario. What was unusual here is it was manifesting in the way it was with these non-convulsive episodes.

Q. Did that aspect of it make it more or less concerning for you?

A. I think a little more.

Q. More? Did he tell you when she had last had any kind of episode, if I can put it that way?

A. I can't recall. I don't think he did.

Q. Did you know that in relation to those early, if they are epileptic seizures -- there may be some issue about that. I'm calling them that, but not necessarily saying that that's what they were. Did you know that she had been admitted and treated at the Royal by the senior consultant, Dr Hicks?

A. I think I did, yes.
THE CHAIRMAN: Sorry, at that point or later on in the sequence?
A. I don't know when, but I'm fairly certain that in the context of her presenting in infancy with seizures and going on treatment, we would have had a discussion about who was managing that and that she would have been seen.
THE CHAIRMAN: Sorry, let me interject. If you're there that day from roughly 8 to 6, or whatever the exact hours are, would Dr Hicks have been there too?
A. She could have been.
THE CHAIRMAN: If there's such a thing at that time as an ordinary Tuesday, would you and Dr Hicks both have been --
A. I don't know. She could have been.
THE CHAIRMAN: Right.
MS ANYADIKE-DANES: It wasn't a scenario where it was always one or the other of you there? Sometimes you were there together.
A. Exactly, yes.
Q. Did you at any point think you might just want to chat through this child's presentation with Dr Hicks?
A. No. Not at that time.
Q. And I think I had started that line of questioning by asking you whether you had appreciated the last time she

had had an episode. Had you?
A. I don't recall. I think I was aware that she had just come off treatment in the previous 18 months, but I don't recall when the last seizure was.
Q. You are starting to formulate the characterisation of what's happening. Would it have made any difference if you'd appreciated that she may not have had a seizure since she was 4? And in fact, that was one isolated one, and the main bulk of them were when she was few months old.
A. I know this is somewhere I differ from the experts. The risk of you developing seizures following infantile epilepsy is 60 to 70 per cent. That's a very high risk. The risk of a child next door who's never had a seizure coming in with a seizure is 1 in 200. So ...
Q. Do you think that just on the description that you were given perhaps -- well, hindsight is a wonderful thing and we all wish we had it -- you started to think in terms of recurrent epilepsy, maybe not keeping your range of possibilities as broad as it might be?
A. I haven't yet taken the history from the grandmother or examined the child, but I think I would have been mentally considering other conditions but, perhaps dismissing them.
Q. So of the ones that you had considered mentally and not

dismissed, you have encephalitis there? That's one of them?

A. Yes.

Q. Which would have a different origin, if I can put it that way. So did you give Dr Sands any indication as to when you thought you might be able to see Claire?

A. I can't recall that, whether I gave him a specific time or ...

Q. Did you get the impression he was rather anxious for you to do that?

A. No, I thought we had discussed it, he seemed happy enough with the plan, that I would go and see her.

Q. Did you know who Claire's paediatric consultant was?

A. Yes, I think I did know that it was Dr Steen.

Q. Did you know anything about Dr Steen's whereabouts?

A. No. I think he did say to me that he did the ward round himself.

Q. Did you have the impression or did you know whether he had been trying to reach her and he was now reaching you directly?

A. I can't recall whether he told me that, that he had tried to reach her.

Q. Did you think that before you saw her patient, you might see if you could give Dr Steen a call?

A. No. No, there was a specific question that I was being

asked and I was --

Q. If you hadn't understood whether he had been trying to reach her or not, did you at least know whether she had been informed in some way or other that your advice was being sought?

A. Well, I would have expected that.

Q. But you didn't know that for sure?

A. I didn't know for certain, no.

Q. Would you have expected that because it's what one calls professional courtesies or because that was just the practice?

A. Well, both.

Q. So when you ultimately do see Claire, the note indicates -- the note is incorrect and you have explained that, but it indicates it was probably about 2 o'clock. Well, the note is timed about 2 o'clock in the afternoon.

A. Yes.

MR GREEN: Before my learned friend goes on to deal with the actual visitation by Dr Webb to Claire's bedside, she has put, if you like, the "two contacts between Dr Sands and Dr Webb" theory before Claire was seen by Dr Webb. In fairness to Dr Webb, perhaps the one-contact theory could be put. If we pull up the official evidence transcript of the inquiry for 19 October of this year,

sir, at page 32, line 18. If you forgive me and we go up to line 15 you, sir, asked the question:

"Question: Why do you think that it's not likely that Dr Webb is right that you spoke to him at about 2 o'clock?

"Answer: My memory is that I left the ward round after we'd seen Claire and that I went to find Dr Webb at that point. I would have probably gone first to Paul Ward because that's where Dr Webb's ward base was. I don't think that's where I found him; I think I found him elsewhere in the hospital at that stage. So I think it took me a little time to find him, but not so very long. I think while there, my memory is that I described briefly Claire's findings to him and asked him if it was okay that we give a dose of rectal diazepam because that's what we had suggested on the ward round. But I think it wasn't actually given or prescribed until 12.15. So I believe I checked with him that he was comfortable with that before it was given and it was given around about or shortly after 12.15."

Sir, Dr Sands' recollection is there was one discussion between him and Dr Webb. He went to speak to Dr Webb straight after having seen Claire on the ward round.

THE CHAIRMAN: Because of his concern?

MR GREEN: Because of his concern. He found Dr Webb and there was one conversation, which also included checking with Dr Webb whether it was appropriate to administer rectal diazepam. The answer was yes, and during the course of that conversation the summary as to Claire's neurologically-concerning presentation was given to Dr Webb by Dr Sands.

THE CHAIRMAN: That's fine.

MR GREEN: I wonder if he could deal with that.

THE CHAIRMAN: I don't know to what extent you've been able to follow these transcripts over the last few weeks, doctor. I think you've had some chance. You have described in the last 40 minutes or so an involvement that comes about because you are contacted once, you approve the rectal diazepam, and then, at some later point around lunchtime, Dr Sands comes to you and, perhaps with a bit more urgency, asks you to come and see Claire, which you think is reasonably urgent, so you want to do it within the hour.

What Dr Sands thought was, from the best of his recollection, that he had contacted you once, that you had approved the diazepam, but that then, for whatever reason -- which is not necessarily a criticism of you because you may have been busy looking after other children -- you weren't able to come or didn't get to

the ward to see Claire until about 2 o'clock.

A. I think I actually got to the ward about 25 to 2. My note is written at 2 and that's when I finished with the patient. If Dr Sands did speak to me before the talk that I gave, it would have been very brief because I would have been preparing for the talk. And he wouldn't have given me sufficient story, from what he's describing, to merit going to see the child. He's asking me could he give rectal diazepam and I would have approved it. But I don't recall him giving me any other information at that stage.

THE CHAIRMAN: Well, is this -- insofar as you were saying earlier that you could remember some things and not others, are you saying that you have a reasonably clear recollection of two contacts with Dr Sands?

A. I have difficulty remembering the first one, but I have a good memory of the second one, coming out of the meeting, and as I said, getting that feeling of "I've finished that talk now", meeting Dr Sands, going into a room and discussing it with him.

THE CHAIRMAN: If he had contacted you, say around midday, and it had seemed reasonably urgent for you to see Claire sooner rather than later, what's the priority between going ahead and giving the presentation or talk over lunchtime or going to see the patient?

A. Well, on the basis of what we had discussed, it was clear he was going to give some treatment, so I think it would have been reasonable to wait until after the talk.

THE CHAIRMAN: Right. But let's take the other scenario. Let's suppose he told you earlier about fluctuating level of consciousness, seizures, learning disability and so on, which you think was the 1.30-ish talk --

A. Mm.

THE CHAIRMAN: -- or conversation. If you had been told that about 12, 12.15, something like that, in the sense that you thought there was some degree of urgency about that, does it take priority over the talk?

A. Um ... It may have done. I find it very hard to answer that, actually.

THE CHAIRMAN: Because it's recreating a level of urgency and --

A. Yes.

THE CHAIRMAN: But your point in answer to the question, which was raised by Dr Sands' counsel, is that you have a clear recollection of a meeting after your talk and then going into a room, discussing it with him --

A. I do.

THE CHAIRMAN: -- and then going reasonably soon after that to see Claire.

A. To see Claire.

MS ANYADIKE-DANES: Can I perhaps ask you a question in relation to that point? The way it was being put to you is that you had been contacted earlier than the substantive contact that you remember clearly, which is when you discussed matters in greater detail in a room. That contact -- the timing of that is being reached because Dr Sands wanted to discuss whether he should administer rectal diazepam with you, and you certainly remember the bit about the rectal diazepam.

A. Mm.

Q. So we have a timing because we know when the rectal diazepam was actually administered. But you also say in your witness statement, 138/1, page 6, at the top at the (c) in answer to the question there. You are being asked to state the nature of Dr Sands' discussion with you and any direction or advice given by you. You say that you can't recall the details and so on and that you discussed a possible differential diagnosis. Then you say:

"I would have recommended regular neurological nursing assessments of her Glasgow Coma Scale."

Do you know if that's something you were recommending to him or that's something he was asking you about?

A. I would have recommended to him.
Q. Then if you were recommending it to him, the Glasgow Coma Scale observation chart, which for reference purposes is at 090-039-137 -- it may help you to see it pulled up, sorry. There we are. Right at the top, there's the 22nd. That actually starts at 1 o'clock.
A. I don't think you can assume that 1 o'clock means 1 o'clock. It could be between 1 and 2.
Q. Ah. But it might mean 1 o'clock?
A. It might, yes.
Q. And, indeed, it might fit a little bit with an earlier conversation that related both to the rectal diazepam and also to the hourly observations.
A. Yes.
Q. And then that would leave your recollection, but not Dr Sands', of a more detailed discussion starting in the corridor and going off into a room.
A. Yes.
Q. But that's the one you say you have a clear recollection of?
A. Yes.
Q. And your explanation for that might be maybe you had two conversations.
A. Yes.
MR GREEN: Just before we leave this point, if we go back to

WS138/1, page 5, I would be very grateful if my learned friend could just nail down whether or not Dr Webb has a specific recollection of a discussion taking place after his talk because what he says at the bottom of that page is:

"I believe Dr Sands contacted me in person at lunchtime on 22 October 1996. This may have been after a hospital clinical meeting that we had both attended."

I wonder if it could be clarified as to whether Dr Webb is now saying that he has a definite recollection that it took place after that clinic meeting or whether that's a possibility.

MS ANYADIKE-DANES: Can you help?

A. When I read Dr Sands' transcript, he recalled that there was a meeting at Tuesday lunchtime, so that, if you like, strengthened my view that that's actually what happened. That was my personal recollection of the time, so I ... My recollection is strengthened by his memory that indeed there was a Tuesday meeting.

Q. Then if we round that off at your witness statement 138/2, page 3, you deal with it in this way. You say:

"I have a recollection that there was an educational clinical meeting that day."

So there you've said that you have a recollection of that. Then you say:

"This may have been a lunchtime meeting and would have taken place in a lecture room at the Children's Hospital."

Can I ask you this: if there was going to be an educational clinical meeting, is that one that happens at lunchtime or could you have a meeting like that other than at lunchtime?

A. I think it was a meeting that was held at a regular time.

Q. No, is it possible for you to have had an educational clinical meeting other than at lunchtime?

A. I think it's one that was held at a regular time between quarter to 1 and 1.30.

Q. So the "may" that you say there is just you being cautious. If you had a recollection of one of those, then it would have been at lunchtime?

A. Yes.

MR GREEN: There's absolutely no dispute that there was a lunchtime meeting from Dr Sands' point of view. The question that I would like to address through the inquiry -- and through you, sir -- to Dr Webb is whether or not he simply says it's possible that the conversation with Dr Sands took place after that meeting or that's his definite recollection now. Because what he says in the statement is that it may have been after

a hospital clinical meeting.

A. What I'm saying is, having read Dr Sands' transcript, I feel stronger of the view that it was after a meeting.

MR GREEN: Finally, this. You will recall, sir, Dr Sands' evidence that the meeting was actually timed -- and even to this day is timed -- on a Tuesday at 1 to 2.

A. I think the meeting doesn't always run until 2 o'clock. I think I was the only person giving the talk.

MS ANYADIKE-DANES: Thank you. Then I was going to ask you something about consultant responsibility because we had started to touch on that.

THE CHAIRMAN: If we're trying to sort out Dr Stevenson and Mr Counsell, could we leave consultant responsibility until Monday?

MS ANYADIKE-DANES: We can.

THE CHAIRMAN: It'll be done, but -- okay?

MS ANYADIKE-DANES: We can. There was an issue, which I am perhaps going to take slightly out of turn with you, just because it assists if it's done that way, so I hope you'll bear with me. That relates to the way in which the midazolam was prescribed.

The midazolam is actually administered at, I think it's 14.45. Can you actually recall prescribing it?

A. Giving the advice to prescribe it?

Q. Yes.

A. Or writing the prescription?
Q. No, the advice to prescribe it.
A. I can ...
Q. Sorry?
A. I can recall discussing it with, I believe, a doctor, but I can't recall who that doctor was.
THE CHAIRMAN: Sorry, I didn't mean to skip straight through to Dr Stevenson's point. If you want to do the 2 o'clock examination --
MS ANYADIKE-DANES: That's where I was going to go.
THE CHAIRMAN: Yes.
MS ANYADIKE-DANES: Okay.

Let's go back to 2 o'clock, Dr Webb. When I started to take you to that, there's an error in the notes, which you have conceded. You have put "4 pm". It may be 14.00 that you might have put, but in any event it's 2 pm and I don't think there's any issue about that.

Can you help us with this: we've spent quite a bit of time trying to see what reliance can be placed on actual times that are inserted in notes or prescription sheets or whatever they are? When you look at the notes -- and I'll just take you to it. Your note appears at 090-022-053.

On the left-hand side, we see you've maybe got the date wrong, but anyway that's the 22nd, and 4 pm, which

you have acknowledged should have been 2 pm. What does that mean? How are we to interpret that? Is it when you actually write up the note, is it when you are recording that you are seeing the child or when you have finished seeing the child? How is that to interpreted for those coming after you?

A. Can I just say the date is my bad writing? It is 22. I think that varies from person to person, and --

Q. Well, for you.

A. I tend to write the note at the end of the consultation and I would put the time that I'm writing the note as the time that I --

Q. So we are to understand that 2 pm, let's say that's what was written there, means that's when you had finished examining Claire, you formed your view and you're now writing up whatever you have to say about that?

A. Yes.

Q. If that's a practice that varies from person to person, how does anybody coming after you know that?

A. Well, they can't for certain, but I think it gives people some idea when the child was seen. It's either half an hour before, half an hour afterwards.

Q. It rather depends how long you spend with the child.

A. Yes. Most consultations are within that time frame.

Q. So do you actually recall roughly how long you spent?

A. I think it would have been 20, 25 minutes.
Q. And when you came to see her, who was there?
A. Her grandmother and a member of the nursing staff, who I think was Nurse Field, is it?
Q. Mm-hm.
A. And I expect there was one of the -- Dr Steen's team on the ward, but I don't recall interacting at that point with a doctor on arrival.
Q. When you are examining her, do you have a quick look at her notes before you do that or do you examine her first and then have a look at her notes?
A. I would usually look at the notes first.
Q. What did you understand from the notes? In fact, we can put the two pages together. 090-022-052 and 053. How far back would you have gone? Would you have gone back to her admission note?
A. I don't think I would have spent a lot of time looking through the notes because she had been in for a short period of time and I had got a good history from Dr Sands. I might have focused on his examination findings.
Q. So does that mean you would have started from 052 to see what he had to say about his ward round examination?
A. Well, particularly -- the examination findings are actually on the page that I wrote, which -- it's

page 53.

Q. There's no point in looking just at page 53 because that's not the start of his ward round note.

A. As I said, the examination findings were the one bit that I wouldn't have perhaps known about.

Q. Sorry?

A. His examination findings were the one thing that I wouldn't have known about from the story.

Q. Well, wouldn't it have made sense to just see his full note? It's not a very lengthy note.

A. Yes, I may have looked at the other page.

Q. If you'd looked at his full note, you'd have seen that her serum sodium level was 132.

A. Yes, and that's preceding the ward round note --

Q. Yes.

A. -- which is the figure that he told me.

Q. Yes, but it's above some other SHO's signature and slightly below 12 midnight. How did you interpret that?

A. Well, it's in a different handwriting to the person above.

Q. What did that mean to you?

A. Well, that result could have been written in that morning.

Q. Would it not be timed?

A. It's not timed.

Q. No. Would you not expect it to be timed if it's written on a different day? Would you not start off with the 22nd as the first observations on the new day of the 22nd?

A. No.

THE CHAIRMAN: But it has to be a new day because the previous entry's at midnight and it's signed off by Dr O'Hare. So what follows on from that, it might be 12.05 or it might be 8 am or 10 am or 11 am. But it's going to be a new day, isn't it?

MS ANYADIKE-DANES: Yes.

So would you not want to know when that -- that's the result coming through at that stage. If the result is coming through at that stage, then what does that imply about when the blood test is taken to produce that result?

A. It could have been done at 8 o'clock.

Q. Was that typical?

A. As I said to you before, the electrolytes were done in the morning on some children who were on IV fluids overnight.

Q. I'm asking you whether it was typical to have the blood tests taken at 8 o'clock.

A. It wasn't atypical. I think Dr Volprecht in her witness statement said she would have done that and Dr Stewart

talked about bloods coming through to the ward round as they were having the ward round.

Q. Did you --

A. So it was perfectly possible --

Q. You've got your SHO there -- not your SHO, you have the paediatric SHO there -- you have a nurse there; did you think just to ask to confirm that?

A. No.

Q. So you carry out your examination and that's what you describe. We can pull up the next page. Let's keep 053 and put up 054. That's your complete record. Can you recall if that "encephalitis/encephalopathy" was there when you looked at his note?

A. I can't.

Q. And then you say under "IMP" -- that's "impression" for IMP --

A. Yes.

Q. -- that you don't have a clear picture of ...

A. "Prodrome."

Q. What does that mean?

A. The lead into the presentation.

Q. And "yesterday's episodes".

A. So I must have received some history that gave me concern that there had been some events the previous day.

Q. And you suggest, having not got a clear picture, you formed the view it was probably longstanding and needed to be checked with her notes?
A. So this is the next sentence, which is relating to her motor findings.
Q. Which are the notes that you think it needs to be checked with?
A. Well, there was mention of notes from Dr Gaston, who I think had seen Claire most recently. I don't recall whether the full chart was available at the time. That's the other possibility. But I think it related more to Dr Gaston's notes.
Q. So you wanted to know about her most recent presentation?
A. Well, it was a long shot if you like, but if he had undertaken a neurological examination, that would be very helpful.
Q. And then you suggest -- and this is what you're suggesting:

"Start on IV phenytoin [which is a stat dose] to be followed by 2.5 milligrams per kilo, 12-hourly. Levels will need to be checked six hours after the loading dose."

If we start with that, what did that mean in terms of when you expected that medication to actually start

to be administered?

A. Well, I've written the word stat, so that usually implies that it should be given straightaway.

Q. And what would that mean? Roughly what time are we -- 15 minutes, half an hour, an hour?

A. Whatever it took to draw up the fluids and to prepare the solution. So it could take 15 minutes or a little bit longer perhaps.

Q. And then if it's administered then, then what do you expect it means in terms of the next dose, which is 12 hours from then?

A. The next dose is six hours. The first thing to do would be to check the levels first and then give the dose after that level and then 12-hourly from then. So the purpose of checking the levels is to make sure that they're right.

Q. You check the levels six hours after you've given the loading dose and in relation to that, then when do you give the next amount?

A. As soon as you get the result back, you give the first dose of 2.5 per kilo and then --

Q. -- 12 hours after that. Who is this being directed towards? Is it being directed towards the SHO who's there?

A. It's being directed towards the medical team.

Q. Yes, but in practical terms, if it is a stat dose and you want it done as soon as it can be done, then the person there to do it is an SHO.
A. Yes, or the registrar.
Q. But the registrar is not there.
A. Yes. I don't think I knew that at the time.
Q. Did you know where Dr Sands was at that time?
A. No.
Q. Did you ask?
A. No.
Q. Is it not something that your examination of Claire, given that he had sought your advice and guidance, that you would have thought he might have wanted to attend?
A. Um ... I didn't know what his -- where he was at the time, but yes, I would have thought he would have wanted to attend.
Q. That's why I was asking whether you asked where he was.
A. No, I didn't.
Q. Had you come with the kind of speed that you had communicated to him that you would come or were you conscious that you might have come a little later than he would anticipate?
A. No, I didn't feel I was later than expected.
Q. So in the absence of the registrar -- you knew Dr Sands by sight?

A. Yes.
Q. Well, you had met him in the corridor, apart from anything else. Did you know him before then?
A. No, he was highly thought of in the hospital and someone who was going to do well.
Q. So you knew of him?
A. I knew of him.
Q. So you know he's not there.
A. I couldn't see him, but yes.
Q. And you haven't asked where he is. So the person available to carry out --
A. Was the SHO.
Q. Was the SHO, yes. Was there any indication as to what the levels ought to be to enable the next amount of phenytoin to be given?
A. Well, that would be reported with the result, so there would be a treatment range, if you like --
Q. Yes.
A. -- reported with the result.
Q. And what is that range that you would consider was appropriate to enable the next amount of phenytoin to be given?
A. It's -- 10 to 20 is the typical range.
Q. So as long as it's within that range, then the next amount of phenytoin can be given?

A. Can be given.
Q. And then you say "hourly obs". That's point 2 of your suggestion. And then you say:
"CT tomorrow if she doesn't wake up."
We'll come to that precisely in a minute, but there's nothing in there that addresses the differential that you were formulating and which it seems that you raised with Dr Sands of encephalitis.
A. No. I have referred to the pictures of acute encephalopathy.
Q. Sorry?
A. I referred to -- you're right, there's no mention of encephalitis, that's correct.
Q. Is there a reason for that?
A. No. I think I ... I tend not to give a long list of differentials, I tend to focus on what I think the most likely explanation is and that's in my note.
Q. Well, how would that be addressed? Encephalitis was something that you thought was a sufficiently reasonable differential to have raised with Dr Sands.
A. Yes.
Q. So if that's something that, presumably at that stage, hadn't been excluded, so it could be something that was the reason for her presentation. How is that being addressed in that suggested plan?

A. I think having seen her and she had remained afebrile, I thought that was less likely at that stage.
Q. So at that stage you didn't think that the encephalitis was as credible a possibility as you might have thought earlier?
A. Yes. Earlier, I hadn't seen her, but it was in the differential, but at this point I didn't think it was as likely.
Q. Would it have been worth noting that?
A. Perhaps.
Q. That's something that you had raised with the registrar and so, according to him, he's included it in the notes.
A. Yes.
Q. He's not there for you to have that discussion, so actually I'm not sure that is such a strong possibility. So would it not have been appropriate to have recorded that?
A. I wouldn't be dismissing it.
Q. I didn't say you were. Would that not have been appropriate?
A. I don't know that it would have been terribly helpful because I think it was still a possibility, but I was less convinced, having seen Claire, that that was the diagnosis.
Q. Then if it's a possibility, don't you go about treating

it, with that sort of adage, you treat the treatable?
A. She wasn't febrile and I think I subsequently did start her on treatment, as you know, but at the time I --
Q. That's why I'm asking you why you didn't do it here. Either you think it is a differential diagnosis which has some credibility to it, some possibility, or you don't. If you think it is, why don't you seek to treat it? If you think it's not, why don't you make a note to that effect?
A. I think you could make the case that I should have started acyclovir there.
Q. Do you think you should?
A. It's difficult to know what I was thinking at the time. But in retrospect, I think you could make that case, yes.
Q. And as for the status epilepticus -- in fact, what Dr Sands has recorded as his impression is "non-fitting status". Was that something that you still considered was likely at the time you were examining Claire?
A. Yes, I thought that was the most likely explanation.
Q. How do you confirm such a diagnosis?
A. Most of the time it's a clinical diagnosis, so the child's presentation and response to treatment. In an ideal world, you obtain an EEG.
Q. Yes. Did you think of doing that?

A. I did think of an EEG at the time, but I was conscious that that was going to be very difficult because the EEG service was very stretched.
Q. I understand. Was it even worth contacting the service just to see what the possibility was?
A. Well, I think if I had made contact knowing the person who was providing the service, that she would have almost certainly felt that she had to do it, and that was very likely to lead to her being there after hours.
Q. Let me understand you. If you'd contacted her, she would have formed the view that that meant you wanted it done and she really ought to comply with that?
A. Yes.
Q. And that might have inconvenienced her because she would have been doing longer hours?
A. She would almost certainly had had other patients she was dealing with. This service was the only service in the province, so it was providing EEG for all of the paediatric hospitals in Northern Ireland.
Q. That doesn't sound as if she wouldn't have done it; it sounds as if you were being considerate as to her workload and seeking to not burden her with it.
A. Well, my understanding was we didn't have an emergency service for EEG and this -- essentially what I would be requesting was an emergency service.

Q. Sorry, I just asked you whether you thought of doing it and you said you did and I think you ended up by saying: if you'd asked, she would have thought she had to, and that would have happened, and that would have meant her staying on later.

A. Effectively, yes.

Q. Yes. So it's not that she -- whether you call it an emergency service or an urgent service or whatever you call it, you haven't yet said it wouldn't happen; you've just said that it would have placed a burden on the person doing it.

A. That's correct.

THE CHAIRMAN: Doctor, if that was your thinking, then that perhaps leads on to the question of how urgently you thought an EEG was required.

A. Yes. This is an area where there's conflict between myself and the experts. I think the reality is if this was happening at 2 o'clock in the morning, I would have to treat it and I wouldn't have access to EEG. If EEG is a service that is required 24/7, it's not provided now, 16 years later.

THE CHAIRMAN: Yes, but how hard you push for an EEG to be carried out surely depends on how urgently you think an EEG is required.

A. Yes. But my clinical --

THE CHAIRMAN: In not pushing at this point, am I to infer something about the lack of urgency with which you thought an EEG was required?

A. No, my clinical judgment is that I can treat this and look for a response.

MS ANYADIKE-DANES: Treat it and look for a response. What is the response?

A. An improvement in awareness.

Q. And if there isn't that, then what do you do about the EEG?

A. Well, I would have almost certainly arranged an EEG for the following morning.

Q. That presupposes that the deterioration, if that's what's happening, the failure to respond, can carry on until that time without any great risk of harm or further harm to Claire; did you know that?

A. Well, I initiated a number of treatments, as you know.

Q. I'm just dealing at the moment with what you're doing at 2 o'clock. That's where we are at the moment.

A. I wasn't to know what was going to happen after that.

Q. No. That's exactly the point. At 2 o'clock, you're prescribing something, you're looking down the number of hours that are left in the afternoon, so if you're not going to get your EEG done in the next few hours then, not so much inconveniencing somebody and staying

slightly later -- talking about something happening in the evening or the night. So in a way, you have to start making up your mind now or fairly shortly after this point of time as to how ill you think Claire is so that you can start, if that's what it is to be, certain treatment now that is easier to arrange now than it is in the evening when you have a more skeletal staff.

A. Yes, and I made the judgment that I should treat this now.

THE CHAIRMAN: And that ties in, does it, with the judgment that the third point under "Suggest", which is, "CT tomorrow if she doesn't wake up". Does that also give an indication of how severe you regarded her position at 2 o'clock that afternoon?

A. I think what I was thinking there was that this -- if encephalitis was being entertained, that we were going to have to do a lumbar puncture and it was considered routine at the time to do a CT scan prior to lumbar puncture.

THE CHAIRMAN: Let me ask it this way: how ill did you think she was when you saw her at 2 o'clock?

A. She was not systemically unwell in the sense that she didn't have a fever or have any vital sign changes. I felt that she had developed seizures in the context of a viral illness and this was quite likely to be

a recurrence of her epilepsy.

MS ANYADIKE-DANES: Well, when you were describing the discussion between you and Dr Sands, in what's been referred to as the second meeting, you said that you formed the view that she was quite ill, really -- I think that was your expression, or something like that -- and that you would then be wanting to see her sooner rather than later, and within about the hour. Were you told whether she was afebrile at that stage?

A. Yes.

Q. So you knew she was, so that's never an issue. That wasn't ever part of her presentation.

A. No.

Q. So you formed that view, even in the knowledge that she was afebrile. So when you actually did come and see her, which is a little bit after that, there's going to be a dispute as to how long after that conversation -- depending on whether you're on one or two conversations -- but a little bit after that you see her. How does your examination of her compare with what you have been told about her by Dr Sands?

A. It's very similar, really.

Q. So --

A. She has the signs that he referred to and she was sitting up in bed, but was vacant in her expression and

that's as he described her, really.
Q. So she was still ill?
A. She was, yes.
Q. And so if we can have some sort of sense of measurement from you, how concerned were you about her?
A. As I said, I think my assessment of her was that she had a recurrence of seizures which I needed to try and treat --
Q. Well --
A. -- and that was accounting for her presentation.
Q. That doesn't connote quite the same thing. How concerned were you about her?
A. Um ... I didn't think that she required admission to intensive care. I felt that she could be managed on the ward and I felt that she could be managed with the treatment that I was suggesting.
Q. From your position as a paediatric neurologist, is there anything else other than non-fitting status -- because you didn't actually witness any seizure activity, did you?
A. No, but the story was that she had a fluctuating pattern of her behaviour. She had been quite bright that morning at 7 o'clock. She had periods where she was vacant and staring and she had responded to rectal diazepam.

Q. Can I just pause and ask you about that? How did you know she had appeared to improve following rectal diazepam at 12.30?
A. From the nursing staff.
Q. They told you that?
A. Yes.
Q. So you had this fluctuating picture, but nonetheless there's no evident seizure activity, but there are these vacancies that you see?
A. That's correct.
Q. And that's part of what, you said earlier, concerned you because that didn't seem to quite fit the pattern?
A. No, it's part of the picture of non-convulsive status.
Q. No, didn't quite necessarily quite fit the pattern of recurring epileptic seizures.
A. Well, non-convulsive status is an electrical seizure; it doesn't manifest as jerking or stiffness. But it's nonetheless a seizure.
Q. That's why I was asking you: was there anything else that could have accounted for her presentation in terms of vacancy and so forth, reduced responsiveness, not speaking, although she was perfectly capable of speaking? Was there anything else in your mind as a paediatric neurologist that could account for that other than non-fitting status?

A. Um ... and encephalitis. They may be the two most likely differentials.

Q. If she had had a --

THE CHAIRMAN: Let's pause for the stenographer. We'll take a break for about ten minutes. We'll resume and finish at about 4.45.

(4.00 pm)

(A short break)

(4.10 pm)

MS ANYADIKE-DANES: Dr Webb, maybe we can bring up 090-022-054. Let's have your whole note. Could you add 053 ahead of that?

Just so that we've got the presentation that you're looking at, it's not just about the fact that she has these vacant episodes, if I can put it that way. But you're also noticing, if you looked at any of her other notes, that she is different down one side, if I can put it that way, and you note that; is that right?

"Reduced movement, right-hand side, query. Mildly increased tone, both arms."

So what is the significance of the fact that whatever is affecting her is not affecting her equally?

A. I think Claire had a history of having favoured movements on the left side.

Q. Where did you get that history from?

A. Well, I could certainly have got it from the grandmother. It's the kind of thing I would have asked.
Q. You think the grandmother told you that?
A. Well, I don't know, but I certainly know that she did have a tendency to favour her left arm.
Q. Okay. Then if you see on the right-hand side, you say she sits up, the eyes open, "looks vacantly, not obeying commands". But she's sat up and her eyes are open. And then just to go back to what the chairman had asked you about point 3 of your suggestion, "CT tomorrow if she doesn't wake up". It's the fact that she's sat up and opened her eyes -- what do you mean by "if she doesn't wake up"?
A. It's not a very good choice of words, but what I was implying was that she didn't come back to normal.
Q. Okay. Then if you look at, just under the impression part, where I had asked you to help us with your writing there, and you say -- what was the expression you gave, "the lead into"? Was that --
A. The lead into the presentation, yes.
Q. "Yesterday's episodes." What were "yesterday's episodes" so far as you were concerned?
A. Well, I can't recall exactly, but that would suggest to me that there was some events that had occurred the previous day that I had obtained that history from the

grandmother, but it wasn't clear at the time whether those were epileptic events that -- might have been epileptic events or some other event.

Q. If you look at the top of the previous page, which is just above your first note, it says, "No seizure activity observed".

A. Yes, and I think that's --

Q. Can you see that, where I am?

A. Sure, yes.

Q. How does that compare with your view of "yesterday's episodes"?

A. I think it is important to understand the spectrum of epileptic activity can be enormous. When you read a note that says "no seizure activity", that to me would imply there was no tonic-clonic convulsive activity. I would have been looking for more subtle --

Q. It's not that you've looked for it; you are recording that it happened. You're not saying you noted the more subtle non-seizure-like episodes that are nonetheless called episodes; you are recording that those episodes happened the previous day. She was admitted some time around 8-ish or so on the 21st. So what are the episodes that you are talking about and where do you see the evidence of that or where do you get the evidence of that?

A. What I'm saying is that my impression of her at the time was she was in this non-convulsive status.
Q. Yes.
A. In my notes, it suggests to me that I had elicited some history that suggested there may have been some more convulsive activity the previous day. What I'm saying is that that convulsive activity can be quite subtle and it depends on how the story is taken.
Q. Yes. If the registrar himself is noting "no seizure activity" --
A. There was no frank -- if there had been obvious convulsive activity, with stiffening and jerking, that would have been recorded.
Q. If you bear with me, Dr Webb. If he has noted "no seizure activity" and you are saying that this is something which could be a little subtle, then presumably you would expect the clinician to note any such subtleties and, if it's not the clinician who's noting it, are you really expecting the unmedically trained grandparent to convey to you a subtle episode?
A. No, it's much more likely that I would have sought a description of events that she might have said: yes, something like that happened.
Q. Like what?
A. I would have said to her, did you notice any funny

movements yesterday?
Q. What would that mean, "funny movements"?
A. Well, I would often actually demonstrate it to the person, the parent. So I would say: did you see any movements that involved jerking or facial twitching or --
Q. Are you saying you actually did this? You demonstrated that to the grandmother and asked her --
A. I can't recall on that particular occasion, but it would be something that I do regularly, that I would actually demonstrate movements.
Q. The grandmother hadn't seen the child. The child had gone to school on the Monday, she had come back from school unwell, was vomiting, and the parents had brought her to the Royal. If it's not in any of the notes that any of the clinicians recorded, given that the parents aren't there at that stage to give you their description of her presentation, where do you get any subtle jerkings or movements from yesterday's episodes?
A. I don't know, but what I'm saying is that clearly there was something in the history from the grandmother that suggested to me that there may have been episodes the previous day.
Q. Well, we will be hearing your evidence again on Monday. Maybe in the interim we and you can look at the medical

notes and you can help us identify if the sort of thing that you're talking about emerges from her notes.

A. Okay.

MS O'ROURKE: I wonder while my learned friend's on this point if she could perhaps ask Dr Webb to look at 090-011-013, which I think is the note in respect of the GP's referral into hospital. And secondly, while we're on the same, my learned friend has put several times -- I think she said "no seizure activity". In fact, I think the note says "no seizure activity observed". And I think there may be a quantitative or qualitative difference in respect of that.

MS ANYADIKE-DANES: Thank you.

Let's look at 090-011-013.

MS O'ROURKE: "Further fit."

MS ANYADIKE-DANES: Do you regard that as something the GP has actually seen or is that her differential diagnosis? How do you understand "query further fit" and "query underlying infection"?

MS O'ROURKE: Well, I don't think that's a question because the question isn't how Dr Webb interpreted that because he may not even have seen that. But the GP, in order to have written that, must have been told something by way of activity or event that caused him to raise that query, so the question then is -- and this is recorded

contemporaneously by the GP: was Dr Webb, the next day, again given also some sort of description of something that caused him to query it was a fit?

MS ANYADIKE-DANES: Yes, thank you very much.

And that was the very reason why I was asking him whether he was saying that he got that from the grandparents because the evidence of the parents and the grandparents is that the grandparents did not see the child on the Monday, and certainly weren't there when the GP was there. The people who were there are her parents and her parents, unfortunately, were not there when you came to examine Claire.

THE CHAIRMAN: But it still leaves open the possibility that -- when Mr and Mrs Roberts went off at lunchtime shortly before Dr Webb arrived, the grandparents had come to relieve them and presumably there would have been some discussion between them about how Claire was and what they had seen or not see. It would be perfectly natural for Mr and Mrs Roberts to have a discussion with the grandparents about that.

MS ANYADIKE-DANES: Yes, Mr Chairman, you're absolutely right. Maybe that is something we should pick up with Claire's parents as to what sort of discussion they did have.

THE CHAIRMAN: Whether anybody remember any detail of that

is another matter.

MR QUINN: Mr Chairman, the parents are clear: there were no seizures on the day before or that morning. So how could they tell the grandparents that there were seizures?

And the other thing we must ask at this stage is if Dr Webb actually did have the GP referral form. In my recollection of his evidence, he had the clinical notes and he didn't have all of them; he just had the notes of the day before -- and he didn't pay much attention to the admission notes either, he said.

THE CHAIRMAN: What he has told us is that he focused on the note that had been written by Dr Stevenson of Dr Sands' ward round.

MR QUINN: That's correct. That's my recollection.

MS O'ROURKE: And, sir, my point is that I'm not saying that he did. However, I am saying --

THE CHAIRMAN: You didn't say that. You didn't say that he did, but you are saying that there is information being relayed through notes.

MS O'ROURKE: Sir, even if he doesn't see it and it isn't relayed through the notes, somebody else the day before has obtained information that causes them to query a fit and it may well than Dr Webb gets the same sort of information about a jerky movement or favouring her left

side or something else -- medical people interpret it differently to laypeople -- and Dr Webb has been explaining that you've got to be very careful when you use the word "seizure" at to what it means to a layperson and what it means particularly to a neurologist.

THE CHAIRMAN: The admission examination refers to Claire favouring one side, doesn't it?

MS O'ROURKE: I think that's correct, sir, and Dr Webb's already given evidence this afternoon in respect of how she was favouring the left side.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Yes, it does, Mr Chairman. I don't think that it says anything about the sort of movements that Dr Webb has described, which would have allowed him to express a view that maybe there were these subtle episodes, but he's been good enough to say that he will look at the medical notes and records after the weekend perhaps and we can revisit the point on Monday and see whether we can advance the matter.

So then just to deal with that third point, the "CT scan tomorrow if she doesn't wake up". Was there any reason why you didn't think in terms of having a CT scan that day?

A. I thought the yield from a CT scan with the story that

I'd been given was going to be very low.
THE CHAIRMAN: So it didn't seem to you to be such an important resource to use at that point?
A. That's right, in somebody who has a learning disability and has had previous history of epilepsy, who has now come in with what we know think are seizures with an intercurrent illness, the yield from a CT scan in that situation would be very small.
MS ANYADIKE-DANES: But if it wasn't that and if it was your other differential and --
A. Well, if it was early encephalitis without fever, I think in that situation the yield would be very small.
Q. Sorry?
A. In that situation too, the yield would be very small and in the early stages.
Q. So then what about the encephalopathy?
A. The encephalopathy as --
Q. As a more generic description.
A. Um ... Perhaps you could give me some differentials that you --
THE CHAIRMAN: Sorry, can I ask you in a slightly different way? Dr Sands' evidence was that, by lunchtime on 22 October, he thought that Claire was seriously neurologically unwell. You've been good enough to make yourself available, you come in, as you do, in response

to these calls on your time. You see Claire, you have a fairly detailed conversation with Dr Sands, at least one, maybe two, but it doesn't matter how many because you have at least one detailed one. You then come and see Claire, you have a grandparent there, you have the nurse there, a house officer there, you do an examination, you draw up a note, you consider what's before you. You opt against an EEG, you opt against a CT scan. You give me the impression -- which I'd like you to correct if I'm wrong -- that you didn't regard her as seriously neurologically unwell.

A. I wasn't expecting her to deteriorate quickly. I thought she had a problem and I thought that we needed to treat it. I didn't think the yield from a CT scan, which would involve her leaving the hospital and going over to the adult hospital, was likely to be high and that um ... I think while I understand experts have expressed a different view, in fact the differentials when you think about them, they're extremely unlikely. So for example, it's extremely unlikely that she would have had a subarachnoid haemorrhage or a bleed because that's a stroke, essentially, and it presents very acutely. It's very unlikely that she would have had hydrocephalus because that is not detectable with papilloedema. And she didn't have a neurosurgical

presentation, that hadn't been a history of trauma or definite focal weakness, she was moving all four limbs. So I felt the yield was going to be very small.

MS ANYADIKE-DANES: What about the SIADH, is that possible?

A. I wasn't expecting SIADH if her sodium was 132 that morning.

THE CHAIRMAN: In essence, she obviously wasn't well, but you didn't at that time think that she was seriously unwell?

A. I thought this was a situation that she could come out of.

MS ANYADIKE-DANES: And the way in which you were going to test and assess that was how she responded to the anticonvulsant therapy that you were about to commence. To some extent, it had already been commenced with the rectal diazepam, but you had further anticonvulsant medication that you were prescribing for her and there was a regime that would stretch on into the next day. Was one way of testing whether your diagnosis was accurate to see how she responded to that?

A. Yes.

Q. And how did you expect that she would respond to that if your diagnosis was accurate?

A. You might have seen an improvement in her awareness.

Q. And what do you think would be the effect on your

differential diagnoses if you didn't see that improvement? Where do you go there?

A. Are we at 2 o'clock now or ...

Q. We're still at 2 o'clock. You are still considering your options, if I can put it that way. So you're going to start something fairly shortly -- not you personally, but the SHO is going to start something fairly shortly, which you hope will lead to an improvement in her presentation and that will be one way, actually, of confirming that you're on the right track, if I can put it that way.

A. Mm.

Q. What's the plan B if she doesn't show any signs of improvement? What does that do to the range of things that you think might be causing her presentation?

A. Well, I think I subsequently started her on acyclovir.

Q. Not at 2 o'clock.

THE CHAIRMAN: Subsequently.

A. Yes. Sorry, could you repeat the question?

MS ANYADIKE-DANES: What I'm asking you is: you have got no actual confirmatory results in relation to your differential diagnosis of non-fitting status, nor have you set any in train. But as I understand it, what you're going to do is you're going to prescribe some medication and, if she responds in a certain way to

that, that will have two benefits. One, it'll confirm you're on the right track and secondly, of course, it'll be leading to her improvement. What I'm asking you is: if she's not responding to that, then what are your alternatives because you would have had those in mind? So she doesn't respond to the anticonvulsant therapy, does it now make more likely something that you had pushed a little lower down the scale, which is the encephalitis?

A. Yes.

Q. It would?

A. Well, it certainly pushed me to start treatment at 5 o'clock for encephalitis.

Q. I'm just trying to think of your thought process at 2.

A. It's not quite true to say that I hadn't put investigations in train because I had planned for her to have a CT the following day and --

Q. But that would give an immediate result, if I can put it that way, then or a result that day, obviously, by definition.

A. Yes.

Q. And other than the encephalitis, if she wasn't improving, is there anything else on the radar, if I can put it that way, that might be the problem because those would be your range of things which you'd be thinking of

and which you'd be wanting to address, assuming that you continue to be involved in her care?

A. I have mentioned some of the things that I thought were unlikely. I think the issue of cerebral oedema was unlikely, given that her sodium was 132 that morning.

Q. So you then leave after that. What was your expectation? Was your expectation that you'd come and responded to a request for specialist guidance and opinion and you had provided that, or did you think that you were actually there to follow through the, if I can put it that way, the treatment plan that you had suggested?

A. I think I intended to give advice and I was expecting that there would be further follow-up during the afternoon at some point.

Q. Did you ask anybody to get in contact with you?

A. I can't recall.

Q. Is that a likely thing for you to have done in those circumstances?

A. Um ... I may have done, but I can't recall.

Q. Let me put it slightly differently. Although you haven't been able to exactly convey how seriously ill she was, I think you were still concerned about her.

A. Mm-hm.

Q. Did you leave any message that if certain things

happened or didn't happen, they were to contact you, that Dr Sands, since you didn't actually know where he was, could contact you and discuss the case further if he needed to? Anything of that sort?

A. I would have had an expectation that if there was any deterioration that I would have been contacted.

Q. Yes.

A. And I imagine that I would have planned to come back later in the afternoon at some point.

Q. Because there are some aspects that I want to deal with now to facilitate people. I'm not going to put to you what the experts have said about the various events that you've been recounting. I will do that, but I'll do that on Monday. I'm just letting you know that and we can move on and see if we can advance what you were actually doing.

At 2 o'clock, it's not recorded, but did you suggest that her serum sodium levels were tested?

A. No.

Q. Did you indicate that any further blood tests might be useful?

A. No.

Q. Is that because you didn't think that was part of what you were dealing with or because you thought about it and discounted it?

A. I can't recall, but I am likely to have thought about it and said further blood tests wouldn't have been terribly helpful.
Q. And you knew that she was on IV fluids. Did you know what she was on and what rate she was on?
A. No, and I would have left that part of her care to the general paediatric team.
Q. And why is that exactly?
A. Because it would be very unusual for a consultant coming in to consult like this to manage the fluids. That would not be what I would normally have done.
Q. Well, not manage them necessarily, but would it not be part of the full picture of what is being administered to Claire so that you take all that into consideration, offer some guidance on it?
A. I did raise the issue of the sodium on the very first contact, but I understood that the fluid management was being dealt with by the general paediatric team.
Q. Did you offer any advice about fluid management in circumstances where Claire seemed to have these neurological problems that were as yet unresolved?
A. No.
Q. Do you think that would have been appropriate?
A. I don't ... It wouldn't have been my normal practice to do that. And in the context of what I was dealing with,

I didn't think it was appropriate.
Q. Well, let me put it to you slightly differently. If Claire was one of your patients, if I can put it that way, is fluid management something that you pay any attention to?
A. Of course, yes.
Q. Yes. And so you would be giving advice to your registrar, for example, as you went through a ward round and were looking at your own patients?
A. Yes, if there isn't another consultant involved, another team involved, of course, yes. But actually, most of the time, that management is done by the junior staff.
Q. Yes, but it's part of her picture, is it not, what she's receiving, what's happening to her?
A. Yes.
Q. So that's why I'm asking you, in that context, when you're trying to get a sense of where that child is and you're at a very early stage in it and you don't really know, you have some thoughts, but whatever it is, you know it's neurological. Is it not appropriate in those circumstances -- I'm not saying to prescribe -- to give some advice and guidance on fluid management?
A. If I was requested for guidance and advice, I would have given it. I had asked about the sodium only an hour or two previously, or an hour previously, and as

I understood it, the sodium level that morning was not one that I would be concerned about.

Q. Well, the SHO might not be in a position to know that that's a relevant thing to be asking about in relation to a child who's got a neurological presentation. It might be a very junior SHO, early in their rotation, they might just know that that is relevant to ask. You're the consultant paediatric neurologist, you're in a position to know whether fluid management is something that needs careful attention when you have a child with an as yet unconfirmed neurological problem.

A. And if the SHO needed guidance and advice, he would have asked his registrar.

Q. I think you had just said then that you asked about the sodium. Who did you ask about the sodium?

A. Dr Sands.

THE CHAIRMAN: In the first meeting?

MS ANYADIKE-DANES: In fairness to you, I think you say that in your witness statement, 138/1 at page 22.

THE CHAIRMAN: He said it earlier this afternoon.

MS ANYADIKE-DANES: Yes, but in terms of consistency, that has been your position from the outset that you asked Dr Sands for Claire's biochemistry results. Just on that point, if we pull up 138/1, page 22. You say in there:

"A mildly reduced serum sodium is a common finding after vomiting in children. This note was a note to myself that hyponatraemia was a very unlikely cause of her admission symptoms and course in hospital."

That note where you say, "I note no biochemistry ..."

A. That's my bad writing again.

Q. Yes. "Normal biochemistry profile", I beg your pardon. And you say that was a note to yourself?

A. Effectively, yes. I considered the issue of sodium, but my understanding was that it was 132 that morning, and therefore it would not explain what I was seeing in front of me.

Q. Would it not have been helpful for those coming after you, particularly as she's not your patient, for you to have expressed that a little more descriptively as to what that meant, that at this stage you see no indication of hyponatraemia or something of that sort?

A. Well, I discussed it with Dr Sands and I've written it.

Q. But you didn't think you would record it in that way in the notes?

A. No.

Q. Okay.

THE CHAIRMAN: Let's move on to 3 o'clock.

MS ANYADIKE-DANES: There are some other matters that I'm

going to come back to, but I'm going to move on to 3 o'clock now.

If we pull up side-by-side 090-022-054 and 090-022-055. There we are. If we concentrate for the moment just on the top right-hand side. "S/B", this is Dr Stevenson's recording:

"Seen by Dr Webb. Still in status."

And then there is a dosage there for midazolam. So far as you can recall, did you see Claire other than at that 2 o'clock recording again before you prescribed the midazolam?

A. I can't recall that. In my inquest statement, I said that I had seen her twice, and that's my recollection. But I have, in a sense, tried to put myself there because the notes seem to suggest I was there, but I'm increasingly not certain that I was there.

Q. So you're not certain that that note accurately records you being there?

A. That's correct.

MS O'ROURKE: Can I just get clarity on that because that note doesn't say he's there at that time and, sadly, once again it's an untimed note. "Seen by Dr Webb" could refer to "seen an hour ago" or "seen an hour and a half ago". One of the difficulties we've got is that nobody other than Dr Webb earlier has timed a note.

MR COUNSELL: I don't know whether the witness can be assisted if we bring up on the screen the third statement from Dr Stevenson. Because although, of course, Dr Stevenson has no recollection of these events, he is able to interpret that note, which is his. So if we have page 4 of the witness statement 139/3.

MS ANYADIKE-DANES: Just enlarge that a little bit.

MR COUNSELL: He's asked about what "S/B" means.

Dr Stevenson's answer is:

"As stated above, I would interpret this entry as indicating that Claire was reviewed by Dr Webb in person on Allen Ward."

He goes on:

"I note that there is an entry in the nursing records stating:

"'Stat dose IV phenytoin at 2.45, to have BD. Seen by Dr Webb, still in status epilepticus. Given stat IV Hypnovel at 3.25.'

"I also note that at page 3 of Dr Webb's third witness statement he makes reference to making three visits to the ward at 2 pm, after 3 pm, and at 5 pm."

THE CHAIRMAN: I think there's a slight difficulty, Mr Counsell, because Dr Webb and Dr Stevenson aren't on their own in trying to, at least in part, reconstruct events from the notes. So that raises an issue about

how precise and reliable the notes are in the first place.

MR COUNSELL: Absolutely.

THE CHAIRMAN: Let's look at it this way: if you take down the right-hand page, which is Dr Stevenson's note, please, and give us 054.

MS O'ROURKE: Sir, could I just throw into the mix while we're looking at it in asking Dr Webb? Of course, there's very clear evidence from Mrs Roberts that once she came back from lunch at 2.10, she did not leave Claire again until round about 4 o'clock, when she went for a tea break that lasted no more than 10 minutes. So if that's the case, then she was present at 3 o'clock and at 3.15 and 3.25, and you'll recall she says she wrote on the fit chart at 3.25 and she never met Dr Webb until 5 o'clock. So that may assist because that's someone's direct recollection as opposed to trying to interpret notes.

THE CHAIRMAN: Okay. Let me ask you this way, doctor -- whether we'll ever resolve this uncertainty, I just don't know -- but you were there and there is a note written at about 2 o'clock, which ends up with your three points of suggestion, okay? And it refers specifically to giving Claire phenytoin. The note below that on the bottom of page 54 is Dr Stevenson giving the

phenytoin. The top right on page 55 is then Claire being given midazolam. Okay? That wasn't part of your 2 o'clock plan. So doing the best you can, what would have happened for you to prescribe midazolam at about 3-ish if it didn't involve you coming back to see Claire again?

A. I think it's most likely that I was contacted and most likely that I was contacted after the seizure at 3.25.

THE CHAIRMAN: And on foot of that you would then -- well, one possibility is that you would then prescribe, by phone, midazolam.

A. Certainly recommended by phone, that's possible.

THE CHAIRMAN: If you were advised of the seizure at 3.25, which is -- there was no confirmed seizure before then. Might that have -- depending how much time you had -- prompted you to go back and see Claire?

A. It would depend on what I was involved in, but it's more likely that that really reinforced my concern that there was a recurrence of seizures in someone who was at risk of having seizures, and this was the first clinical event, if you like, the first obvious event.

MS ANYADIKE-DANES: Can I help you with the timing in this way? It's not quite right to say that your note is the only timed one. Dr Stevenson appears to have timed his note of his entry in relation to the calculation of

phenytoin at 2.30. Then his note in relation to you comes after that. Of course, these timings are not always precise, but the observation chart is completed by Claire's mother at 3.25 and she's very clear about that. She makes that entry herself. She's very clear about the fact it happened and very clear about the time it happened.

Then if what you're saying happened is that that seizure occurred and then you were contacted, as I understand what happened you were contacted, that would have been explained to you, you would have had some thoughts about what you would want to do in those circumstances. Ultimately, your thoughts ran to changing the anticonvulsant medication, trying midazolam, which is something you'd had some familiarity with in Canada, going into your office, checking what the appropriate dosage was, then phoning that through, then that would have meant -- in this case it was Dr Stevenson -- he would have then had calculated that, made this entry or in whichever order he did it, that would have emerged there, and then it would have been administered. That's roughly it, isn't it?

A. Mm.

Q. Then if one looks at actually the timings of the administration, which you find at 090-026-075, the time

of the administration of the midazolam appears to be 3.25. Who gave it is not signed, although the nursing note seems to indicate that it was given because that is the nurse's note. But certainly Dr Stevenson is signing it off at 3.25 as the time of administration. Recognising that people's watches are slightly different and maybe how they record times aren't always accurate, but it may well be quite a lot to happen from the time when the seizure happens at 3.25, all of that, and then for the entry to be made at 3.25.

So is it possible that the suggestion that midazolam be administered is not something that's done in response to that seizure, but is something that is done before that to allow all that I just described as to what might be going on, if you received such a call, and to allow it to be administered at roughly 3.25? Is that possible?

A. It's possible, but I think unlikely. Because I think it's most unlikely that the drug would have been given at the exact time that the seizure occurred and it's most unlikely that Claire's mother wouldn't have recalled the administration.

Q. Sorry?

A. It's most unlikely that Claire's mother wouldn't have recalled the administration of midazolam. It's most

unlikely it would occur at the time of the seizure, which is documented at 3.25.

Q. Well, there's been expert evidence as to the extent to which midazolam, which is extremely fast acting, could produce paradoxical seizures or something of that sort, perhaps in combination with the phenytoin, which has quite a long half-life. So there are some possibilities around that and that's part of obviously what we have sought expert guidance on, as to whether those two things could be related. In any event, the point that's being put is that an alternative is not that you phoned that through at 3.25 or thereabouts, but actually you had come a little earlier, maybe just briefly, to have that discussion with the SHO, which is what's recorded, and the reason that Claire's mother might not have seen you is maybe she's unfortunately at the loo just at that time or something of that sort.

MR QUINN: Claire's mother will definitely say that she went for a cup of coffee. When she came back, the lady in the opposite bed was tending her daughter in the same little room that they were in and she said, "You have just missed the doctor".

THE CHAIRMAN: And that time was?

MR QUINN: Some time around 4 o'clock, 4.15.

THE CHAIRMAN: But midazolam's given earlier, Mr Quinn.

Nothing really fits here because if we don't -- if Dr Webb did see Claire at about 3 o'clock, which led to the midazolam being prescribed, it's almost like nothing in particular's happened by then, so he's almost having second thoughts, "I've given the phenytoin, maybe I'll give the midazolam as well".

MR QUINN: Yes.

THE CHAIRMAN: If this is prescribed or suggested by Dr Webb before the 3.25 seizure entry, it's not because, so far as we can work out, anything new has developed with Claire.

MR QUINN: Yes. I understand.

THE CHAIRMAN: It's because he has come back and maybe had an additional thought or, "I've been thinking about this", as you might well do, because everything isn't clear-cut. You've been thinking about it and maybe come back and say, "Let me try the midazolam". Is that --

A. I just don't think it's likely that I would have missed the mum twice. I don't think we can be certain that the mum -- the other lady in the room knew it was me or knew it was Dr Stevenson.

MS O'ROURKE: Sir, can I add into that? Mr Quinn is entirely right that mother said the lady across the bay said, "You've missed the doc", but she didn't say, "You've missed two doctors": "You've missed one doctor".

We know there was a doctor there that afternoon because there's a note after 2.30 in the records and it comes from Dr Stevenson. So more likely than not it would look like it's Dr Stevenson's at the bed to write on the chart and that's the doctor she missed because Mrs Roberts was very clear: she came back from lunch at 2.10 and at 5 o'clock she saw no doctor and she was only away once. Therefore, she hasn't seen Dr Stevenson and you have the fact that Dr Webb doesn't write in the notes or sign anything.

MS ANYADIKE-DANES: How quickly did you expect Claire to respond to the phenytoin if you were on the right track with that medication?

A. You can get a response within 15 minutes.

Q. So she was prescribed the phenytoin at 2.45.

A. Mm.

Q. Sorry, I beg your pardon. She was administered the phenytoin at 2.45. So you might have expected a response by about 3?

A. At 3, possibly.

Q. Yes. And if you hadn't, or they had not seen a response at that time, might they be contacting you to say, "She's had the diazepam, she's now had the phenytoin"?

A. I think it's a bit early. I think it's unlikely they would have jumped to ring me at 3 o'clock.

Q. That's when they might have done an hourly observation, so that might have prompted some consideration of: where do we stand with her? And if that had happened in response to when you might think you had seen a response, then that might provide some explanation for why you might have come by and thought about administering something else.

THE CHAIRMAN: Sorry, what was the hourly observation at 3 o'clock? Can somebody tell me quickly?

MS ANYADIKE-DANES: The hourly observation at 3 o'clock was 7.

THE CHAIRMAN: Compared to what at 2 o'clock?

MS ANYADIKE-DANES: It doesn't actually seem to be filled in at 2 o'clock because that's the one that Dr Webb himself includes. It's 9 when it starts at 1 and it's at 7 at 3 o'clock.

THE CHAIRMAN: Would that be a reason to call you back, doctor? The GCS score of 9 is low-ish already. And if there's a 3 o'clock observation some time around 3 pm, which has it down at 7, that would be raising a warning flag, wouldn't it?

A. I think it would have been reported in the nursing notes if that was the case.

THE CHAIRMAN: You mean if it was the case that you were asked to come back?

A. Yes, I think they would have made a record of that.
THE CHAIRMAN: In a sense, we're focussing on whether you did actually see Claire at 3 o'clock-ish. But that may not be the critical point here. The critical point here is whether you saw her or whether you were given information by phone and your response was to prescribe midazolam.
A. And I think it's most likely that I would have done that in the context of her having had a seizure.
MS ANYADIKE-DANES: Then let's go to the prescription of midazolam. Would you not have wanted to see her before you prescribed that?
A. In an ideal world, I probably would have, but I don't know what I was doing at the time.
Q. When you went to check the dose of midazolam, that's because you needed to because it wasn't one of those things at the forefront of your mind. Had you used it in the Children's Hospital since your return from Canada?
A. No.
Q. So it's not one of those things that you were regularly using? Would it be fair to say that it's likely that it wasn't something that the junior SHOs or the nursing staff would be familiar with?
A. It was a drug that was on the ward and it's a drug

that's a member of a family of drugs that are very well-known, the benzodiazepines. So it wasn't one that was completely unfamiliar in that sense.

Q. Yes, but would it be fair to say -- in fairness, you yourself have said that you hadn't actually used it since you had come back from Canada --

A. Yes.

Q. -- and you're the consultant.

A. Yes.

Q. So is that why it would be fair to expect that the SHOs, particularly if they were fairly early in their rotation, may not have come across it?

A. That's correct.

Q. And it's probably fair to say that the nursing staff may also not have come across it.

A. Possibly, although ...

Q. If you're phoning through, presumably you know whether you're speaking to Dr Sands --

THE CHAIRMAN: Dr Stevenson.

MS ANYADIKE-DANES: -- or Dr Stevenson.

A. I don't know who -- I can't recall who I spoke to.

Q. But if you had been speaking to Dr Sands, you would have know you had spoken to him because you have spoken to him before.

A. Yes.

Q. And Dr Stevenson has written the note so the probability is that you were communicating that to the junior SHO, who had been there, or one of them there, when you examined her at about 2 o'clock.
A. Yes, he could have got the information from Dr Sands possibly.
Q. Yes. So you're communicating that to him, you're communicating that at the telephone, I think. In your third witness statement, do you think that happened? Is it something that you would have wanted to check afterwards or explained to him what some of the features of midazolam might be?
A. Well, I think I would have explained that.
Q. It can be a pretty powerful drug, can it not?
A. Midazolam is probably the drug that's used most now to stop seizures in children. We give it almost -- every patient that we see with seizures, so it's a very widely-used drug now.
Q. I appreciate that, but if we're back in 1996 --
THE CHAIRMAN: It doesn't matter whether in 1996 or 2012; I think the question to you was: is it quite a powerful drug?
A. Yes, it is a powerful drug in terms of its effect.
THE CHAIRMAN: Right.
A. It's a very effective anticonvulsant.

MS ANYADIKE-DANES: So it's a pretty powerful drug and one which perhaps the characteristics of it or the adverse effects of it may be something that the junior SHO may not be aware of.

A. I wouldn't expect that because it's a member of a family of drugs that's very well-known, the Valium group, if you like, and part of the reason that I thought it might be helpful was because Claire had responded to diazepam. It's related to diazepam and the side effects of the drugs are very similar.

Q. When I said "might not be aware of" -- and this is a time when 1996 is relevant because although it may be in common usage now and maybe an SHO now might be aware of it and familiar with it and perhaps even have used it, in 1996, I think you've already said that, in fairness, you wouldn't necessarily expect an SHO to be familiar with it. So what I'm trying to get at is: in those circumstances, what would it have been reasonable for you to have told the SHO about this medication that you are suggesting is administered to Claire?

A. I think the SHO would have known that it had a potential to cause sedation. I would have expected that.

Q. You, I think, said that you would have explained certain things to him. I think I had gone off rather quickly to another question. What do you think you would have

explained to an SHO about midazolam?
A. Well, that you give a bolus and then you start an infusion, and that sedation is a potential side effect.
Q. Is respiratory arrest?
A. It's a rare side effect, which it is for diazepam too.
Q. Yes. When I was taking the experts -- Dr Aronson, who's the expert pharmacologist for the inquiry and also, I think, to some extent Professor Neville -- through some of the product literature about midazolam, now recognising that drug companies want to err always on the side of caution, nonetheless it would appear to be being described as a drug to be used with a fair degree of respect in terms of some of the potential adverse consequences.
A. I think that's correct.
Q. Is that something that you think you might have communicated to Dr Stevenson?
A. Perhaps not in those words. I think the other thing that I almost certainly did communicate is that Claire should have an oxygen saturation monitor.
Q. As she was being administered it?
A. Yes.
Q. Did you explain why?
A. As you've suggested, it can affect breathing.
Q. No, did you -- I know that's what I suggested. Did you

explain why to Dr Stevenson or at least to the doctor that you had on the other end of the phone?

A. I can't recall that, but I think it would have been implicit in the suggestion.

THE CHAIRMAN: In the sense that if you suggested that to a doctor, a doctor would know what the reason was?

A. Yes.

MS ANYADIKE-DANES: If one pulls up again 090-022-055, if you look there at what Dr Stevenson has taken down as to the dosage, you're quite clear, are you, as to what you told him for the dose?

A. The dose that I would have recommended was 0.15.

Q. Can I just pause there with you? You've just said "the dose I would have recommended".

A. Yes.

Q. Do you have an independent recollection of what you actually told him about the dose?

A. No, I don't. I had to go and check the dose.

Q. Sorry, that's not what I mean. Do you now have an independent recollection of the telephone --

THE CHAIRMAN: I'd be astonished if Dr Webb could sit here and give evidence on oath to say, "I remember saying 0.15".

MS ANYADIKE-DANES: So you don't have that?

A. No, I don't.

Q. So what you're relying on is the fact that you do remember checking it in the literature and the literature says a particular kind of thing and, as far as you're concerned, that implies or at least suggests to you that that's what you told Dr Stevenson?
A. Correct. And I have to be responsible if he misconstrued it.
Q. And given that you were telling him that on the phone and if it's something that even you had to check, if, when he took down the dosage and did the calculations, he had got something that appeared to be completely out of range, he wouldn't necessarily appreciate that. Is that something that you felt that you ought to check yourself what had been administered to her?
A. No, at the time. I wouldn't have because my expectation would have been that if I had given a dose and he was drawing up the medication, that he would have checked that with another individual, either a doctor or a nurse.
Q. No, it's not so much the case that he wasn't clear on it; it's the case of speaking on the phone, somebody may simply have misheard or made an error of that sort and wouldn't necessarily appreciate that was an error because to them, whether it's 12 milligrams or 3.6 or whatever, if it's not a drug that they're familiar with,

they may not appreciate the significance of that. That's the point I'm making.

A. Yes, I'm not sure -- I think ... That may be a counsel of perfection.

Q. Sorry?

A. I'm not sure. That may be a counsel of perfection to go checking with him that he had got what I had said correctly.

Q. You have a note of seeing Claire that is timed at 1700 hours and his calculation of what he's recorded you told him is immediately above it.

A. That's correct.

Q. And it's not too difficult to see that 3.6, which is what your dosage would have amounted to, is fairly different from 12.

A. And I missed that.

Q. But that was the point I was getting at.

A. Yes.

Q. I appreciate that you might not have thought that I'll just immediately go back to the ward and see what he's done, but since you are actually there with Claire, would it not have been a responsible thing to at least see what he had administered to her?

A. It would not be something that I would do routinely.

Q. But it's just above your note.

A. I understand that. As I said, I missed it.
THE CHAIRMAN: I think that's all he can say.
MS ANYADIKE-DANES: When you came to see Claire and you made your note, Claire has had a loading dose of phenytoin and a bolus of midazolam, who was there when you were examining Claire at that stage?
THE CHAIRMAN: If you're going to go to the 5 o'clock examination, I think we'll leave it for today.
MS ANYADIKE-DANES: I was going to come back to a bit in relation to Dr Stevenson on that point.
MR COUNSELL: We passed over it.

I wonder whether the witness perhaps could explain the source of his information that the dose was 0.15. And just to help, if the document, which is attached to his third witness statement, which appears at witness statement 138/3, page 5, is brought up. It may be of assistance if, alongside that, a page from his second witness statement, 138/2, page 13, is brought up.
I think the first document on the left-hand side is the piece of literature which Dr Webb tells us he would have had. I don't want to anticipate his evidence in front of him. Perhaps he could deal with that and then explain the last sentence in the answer to (d).
MS ANYADIKE-DANES: Let's start with the left-hand side.

This is a document that you attached to your witness

statement. Is this the document that you went to look at in your office?

A. I can't be certain of that, but it's the major paper describing midazolam use in this way at that time and it's likely that it would have been. My source of information might well have included other sources from my time in Vancouver.

Q. Just to be clear: you mean there were other documents that you would have looked at at that time in your office?

A. I would have had a file that related to status epilepticus and I would have had notes in relation to midazolam that could have been made at meetings, from conferences that I attended or interesting patients that I had been involved with.

Q. And do you think that you flicked through that file at the time when you were checking on whether it seems that midazolam would be an appropriate medication and that the dose ought to be 0.15?

A. To confirm the dose, yes.

Q. Just to confirm the dose?

A. Yes.

Q. So you already had in your mind that you were going to suggest midazolam; what you really wanted to know is the appropriate dose.

A. Exactly.
Q. So that's why I'm asking you: do you think you were looking through that file or was it just this paper or something like this that you used?
A. I think it was likely to be this paper and notes that I had as well.
THE CHAIRMAN: Was Canada a bit ahead of the UK in using midazolam, or your particular hospital?
A. No, I don't think so. I can't speak for the UK, but there were certainly other centres around the world that were using it. So the paper that was published in 1997 was from, I think, the Far East.
MS ANYADIKE-DANES: This was the description, was it not, of a piece of research?
A. The 1997 paper?
Q. No, the paper here.
A. The 1993 paper, yes.
Q. Yes. That was described by Dr Aronson, on the use of midazolam, as perhaps experimental at that stage; do you accept that?
THE CHAIRMAN: "Innovative", I think, was his term.
MS ANYADIKE-DANES: And we had "avant-garde".
THE CHAIRMAN: He wasn't being critical of the use of it.
MS ANYADIKE-DANES: I wasn't being critical of it, but that is how he characterised it. Nobody was saying that it

wasn't a good idea that you were seeing all that you could as to what might be a successful drug therapy for Claire. That's not the issue. The issue was -- or at least it was at that time in the evidence -- the extent to which to use it could still be regarded as a little experimental. There had been no large drugs trial involving it in the use of children.

A. That's true of a lot of the drugs that we use, unfortunately. It's just a fact of life. But I wouldn't have considered it experimental.

Q. How would you have characterised it at that stage?

A. Well, perhaps innovative. As I said, it was a drug that was very effective.

THE CHAIRMAN: In any event, the reason why these two documents are in front of you, doctor, is you've referred to this 1993 publication in your third statement, but when you were preparing your second statement and you were asked at (d) to:

"Explain why you recommended the administration of midazolam in Claire's case and provide a paediatric text in your answer."

And you ended by saying:

"I do not have a textbook reference for intravenous midazolam dating back to 1996. But there is a publication from 1997 documenting its use in

children."

And I think implicit in this is the question that since you didn't have a paediatric text, a textbook to refer to, and you were going to refer to something else, why didn't you actually refer to the 1993 paper, which is the one you are suggesting was the one that you relied on when you prescribed to Claire with this particular dose?

A. I did a number of literature searches around this time and I think what happened is I just mislaid that paper and when I was asked the question again, I found it.

MS ANYADIKE-DANES: I think actually the question was more directed towards if you're trying to explain to the inquiry why you recommended the administration of midazolam in Claire's case when she was being administered that in October 1996, how can you be referring to a paper in 1997?

A. Well, I think it's important to understand that when papers are published, quite often they've been around for a little while. The information in them has been around for quite a while. It's not unusual, for example, for the authors to present them at meetings. So it's quite conceivable that paper was presented and that I would have had some knowledge of it.

Q. Given that you've included it in your witness statement,

are you saying that that paper in the Archive of Diseases in Childhood, 1997, 76, 445 to 448, is something that you saw or a version of it before Claire's admission?

A. No, I wouldn't have seen the paper. What I'm saying is the contents of the paper related to patients that were treated between 1993 and 1995. So there was certainly a possibility that that information was available through presentation at scientific meetings or --

Q. Well, did you know that? Sorry, let me frame it a different way. Do you have any evidence to indicate to you --

A. No.

Q. So that's perhaps, one might say, not a terribly helpful reference for the inquiry.

A. I think it's helpful in the sense that it documents that that drug was being used at that time in other units for this condition.

MR COUNSELL: One other question only in relation to that. I wonder whether the witness could be asked: if he had relied on the contents of this study in order to arrive at correct dosages, then what would have been the maintenance dose which he would have fixed upon?

A. Between 1 and 5 micrograms per kilogram.

MS ANYADIKE-DANES: I think the question is: where do you

get that from this paper?
A. From the second paper?
Q. No, from the 1993 paper.
A. It reports an infusion rate at 1 microgram per kilogram per minute. That's the starting infusion rate.
Q. What you are recorded as having prescribed is 2 milligrams per kilo per minute.
A. No.
THE CHAIRMAN: I don't think it has been suggested before that there has been specific evidence about whether Dr Stevenson and you, between you, miscommunicated about the stat dose. But I don't think it has been suggested that the infusion rate was mistaken by Dr Stevenson.
MS ANYADIKE-DANES: No, not mistaken.
MR COUNSELL: The purpose of the question was that if, as I understand Dr Webb's evidence to be, that he may have relied upon this document, which he has now discovered again, and from this document he gave instructions to Dr Stevenson that the bolus dose should be 0.5, then it may be that looking at this document he would have given an instruction that the maintenance dose should have been 1 rather than 2. I'm not suggesting for one moment that either would necessarily be correct.
THE CHAIRMAN: Yes.
MS ANYADIKE-DANES: Well, can you help with that?

A. It's perfectly conceivable that I had a note that suggested starting with a dose of 2 micrograms per kilogram per minute was preferable.
Q. Did you have a note that said that?
A. I don't know. I don't know.
Q. Do you still have that file?
A. No. I don't, no.
Q. I stand to be corrected but I think there might have been an issue as to not only was the stat dose obviously high, but the infusion itself might be high. I will check that for you over the weekend, but I think there was an issue about that.
A. I think the infusion range is 1 to 5 micrograms per kilogram per minute. And Claire was receiving 2 micrograms per kilogram.
THE CHAIRMAN: If there was an issue, it wasn't an issue that had been raised on behalf of Dr Webb.
MS ANYADIKE-DANES: No, I think it was raised when Dr Aronson was being asked.
THE CHAIRMAN: The point I'm looking at here is to the extent it is suggested that there was somehow an error made somewhere along the line between Dr Webb and Dr Stevenson, which led to Dr Stevenson writing down 0.5, it has not been suggested to him that he made a mistake or there was a misunderstanding about the

infusion rate.

MS ANYADIKE-DANES: No, it has not been suggested that he told Dr Stevenson one thing and Dr Stevenson's written another thing in relation to the infusion rate. You're absolutely right, Mr Chairman.

THE CHAIRMAN: That's the point I was making following on from Mr Counsell's point about the infusion rate.

MS ANYADIKE-DANES: I simply want to check whether there has been any evidence given as to whether that was an appropriate infusion rate.

THE CHAIRMAN: That's a different point because that is now the point that's between Dr Webb and Dr Stevenson.

MS ANYADIKE-DANES: No, it's not.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: I thought that is a little bit of where Mr Counsell was going to ask about that, but that's not a point in terms of miscommunication between the two of them. I accept that. So maybe I'll pick that up with you on Monday.

MR COUNSELL: Sir, can I thank you very much for taking that evidence out of turn?

THE CHAIRMAN: Not at all. You're not the only person who has been inconvenienced this week.

Doctor, I'm sorry we've had to sit late this afternoon. I'm sure it has been a long afternoon for

you. We're going to resume again on Monday.

I understand from an enquiry that was made early that you can convenience us by being available from 9.30, and I'm grateful to you for that. We're very keen for you -- as is everybody, including Mr and Mrs Roberts -- that we finish our investigation and evidence into Claire's case before Christmas. It has been going on for perhaps a bit too long and we would like to bring this limb of the inquiry to a end. So we'll start again with Dr Webb, who will be the only witness on Monday, at 9.30.

Could I ask you, doctor, to remember that now that you have started to your give evidence, you're under oath, and you should not be consulting with anybody or talking about your evidence over the weekend with anybody.

MS O'ROURKE: Sir, can I just raise one issue in respect of that? We were reminded this morning about a letter from the assistant solicitor to the inquiry dated 6 November 2012, asking for Dr Webb to clarify in respect of his witness statement 138/3, question 2(a) on page 2, in respect of a CT scan and him making a comment:

"I was aware of the published concerns about sending children to an adult facility for emergency

investigations."

We asked Dr Webb about it this morning while you were hearing other evidence. He's going home to look for the papers and to let us have them over the weekend.

May we have permission to talk to him to that limited extent only to clarify from him what papers and, indeed, to receive them so that we can respond to the letter sent to my instructing solicitor?

THE CHAIRMAN: If he knows what papers it is that you're looking for, then I'm quite happy for Dr Webb to forward those papers to you, but there's not to be a discussion about them.

MS O'ROURKE: Thank you, sir. There won't be a discussion about them. It is simply to clarify that these are the papers he means and to receive them from him.

THE CHAIRMAN: Thank you very much, ladies and gentlemen. Monday morning at 9.30.

(5.22 pm)

(The hearing adjourned until 9.30 am on Monday 3 December 2012)

I N D E X