Wednesday, 13 June 2012

(10.00 am)

THE CHAIRMAN: Good morning.

MS ANYADIKE-DANES: Good morning, Mr Chairman.

THE CHAIRMAN: Straight into Dr Armour?

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: Dr Armour, please.

DR ALISON ARMOUR (called)

Questions from MS ANYADIKE-DANES

MS ANYADIKE-DANES: Good morning, Dr Armour. You have made, I think, three statements for us. Well, one which incorporated an earlier one, I think --

A. Yes.

Q. -- and the most recent of which we had yesterday. Do you adopt those statements, subject to anything you may want to say in this oral hearing, as your evidence?

A. Yes, I do. And I would like to say I have been provided with the evidence of the surgeon, Mr McCallion. I did sit here in court yesterday and I would like to say, regarding the suture, it was my firm opinion 17 years ago that what I saw at autopsy was indeed a suture. However, considering the evidence of Mr McCallion and sitting here yesterday, I am prepared to accept that this may well have been a piece of fibrous tissue that resembled a suture.

Q. I understand. Thank you very much for that. That clarifies things. We'll go back to it for the significance of that being your view at the time later on, but thank you very much for that. That clarifies things and stops me having to go to quite a bit of other evidence I might have had to.

I wonder if we may start in this way, and that's to get clear, firstly, where all this happens --

A. Yes.

Q. -- on the site. And Dr Mirakhur was trying to help yesterday by reference to a plan. Given that you were operating in the State Pathology Department, it might be that you can assist us better with the layout of things, and I think it's 300-003-003. Maybe if we can pull that up. There we are.

If you take a little bit of time to orientate yourself. The Children's Hospital, as was, is what's marked out in red.

A. Yes.

Q. If you work your way towards the bottom right-hand side, you'll see a laboratory, a building that's labelled "laboratories".

A. Yes.

Q. "Services", "medical records", and to the right, you'll see "mortuary and state mortuary", and then if you go up

north a bit, past through the "School of Dentistry", over the road, by the car park, there's another little building called "mortuary", which I must say I hadn't noticed yesterday, and then there's the haematology labs.

A. Yes.

Q. So bearing in mind that sort of orientation, can you help us with where you were based and where the mortuary was that you used for Adam?

A. Yes, I can. It's the "mortuary and state mortuary". That was the State Pathologist's Department.

Q. Actually on that site?

A. On that site.

Q. And does that mean your offices were adjacent to or next to the mortuary itself?

A. The mortuary's actually physically in the same building. We were upstairs, the mortuary is downstairs.

Q. Thank you very much. I think it's the Regional Neurological Centre or the Neurological Department; where was that?

A. This is where I think is map is inaccurate because where it says "car park" --

Q. Hang on, which one?

A. Okay. You leave the State Pathology Department and walk north past the School of Dentistry, you cross that main

road, you walked up a few steps and there was the building with lecture theatres and all of the histopathology and neuropathology department.

Q. Just close to where the haematology labs are?

A. A bit further down because the mortuary that's put in there that you have highlighted, the old mortuary, was just a bit behind us and to the right. So that first car park adjacent to the road, that's where histopathology and neuropathology was.

Q. Okay.

THE CHAIRMAN: Is that collectively known as the Institute of Pathology?

A. It is indeed, yes.

MS ANYADIKE-DANES: So if you had wanted to go and meet Dr Mirakhur or Dr O'Hara, is that where you're going?

A. Absolutely, yes. They are all there.

Q. And if they're carrying out their own hospital post-mortems, are they carrying them out, effectively, in your building, in that mortuary?

A. They are indeed, yes.

Q. Thank you very much.

A. I can't remember when the old mortuary was defunct, but we did use it in my earlier time there. I can't remember the exact date, but in 1995 there were no post-mortems performed in the old mortuary; they were

all on our site.

Q. Thank you. Thank you very much. Now that you have introduced when you came and how long you might have been there, let's go to your resume. That is reference 306-071-001.

You started off in Belfast and then went to Leeds.

A. That's correct.

Q. Was that for greater specialisation?

A. It was and it was for career progression.

Q. You were there, therefore, for about three years?

A. That's correct: just a little short of three years.

Q. And apart from conducting or carrying out research, did you actually act as a pathologist?

A. Oh, I did. I did one year of research whilst I was there into -- it was lymphoreticular pathology, which is my sub-specialty in my NHS job, but I was on the Yorkshire Regional Training Scheme for the rest of the time where I was a trainee pathologist in Bradford, St. James's Hospital, Leeds General Infirmary and Huddersfield, where I was a trainee histopathologist. So I did post-mortems and diagnostic work down the microscope.

Q. And just for a point of comparison, you'd have been doing those right up to the early part of 1993, when you came over to Belfast; is that right?

A. That's correct.
Q. And when you were doing those, would you produce your own reports I take it?
A. That's correct.
Q. You heard Dr Squier say that in her unit -- and she's always been at the John Radcliffe, really -- they would not allow anybody who wasn't a consultant to have their name solely on a report; they would seem to give them the cover of a consultant's signature, if I can put it that way.
A. Yes.
Q. Can you help us with whether that worked at other places where you have carried out autopsies?
A. This is where I do find it difficult to remember because it is so far back. I cannot recollect a consultant countersigning my report as a trainee. You did post-mortems and you were asked to present your findings to a consultant afterwards. They would assess whether they thought you were competent or you had got the findings and, if they were happy with you, you would progress and do autopsies. I cannot recall a consultant ever countersigning --
Q. But there would be that exchange with a consultant in any event?
A. Yes, there would be. Yes.

Q. I understand that.
A. Particularly prior to the membership. I didn't have the membership --
Q. No, I understand that also. In fact, you gained your membership in 1992.
A. I did, yes.
Q. So that would be the, just the year before you came to Belfast. So you'd have done some of those autopsies as a member?
A. Yes, that's correct.
Q. Okay. Then let's come to when you come to Belfast. You come in 1993. It may be that you can help us here with how things worked, how they were set up, if I can put it that way. You came straight to the State Pathologist's Department.
A. Yes.
Q. There may have been changes -- and do tell us if there were -- between 1993 and 1995, but what I'm trying to get you to explain is what the structure was. Can you help us with that?
A. Yes. In 1993, we were actually on the old site. We were with the histopathology colleagues in the Institute of Pathology, we hadn't moved to the new building. There were three consultant members of staff, there was the head of department, who was not quite

professor yet, Dr Jack Crane in 1993. There was Dr Derek Carson and Dr John Press. There was also another trainee, who had more years of experience than me, but who had not passed the membership, that was Dr Alan Cromie, and he was a trainee forensic pathologist.

Q. Pause there so we get the terminology right. Up until you actually achieve your consultancy, are you strictly a trainee?

A. If you have the membership, it is recognised that you could well perform the functions of a consultant in that area. So that area would be routine coronial autopsies. However, I would need more training as a forensic pathologist to be able to carry out autopsies on homicidal deaths. That's where the extra training is for homicide.

Q. Is that what you were staying on in Belfast to achieve that?

A. That's correct. I wanted to become a forensic pathologist and I needed training in homicides and that's why I was there.

Q. Thank you very much. I interrupted you. You were then saying who the pathologists were and what was the structure.

A. That was the structure.

Q. Okay. I will come back to other parts of the structure, but if we then see how it works in terms of the different types of autopsies. You will have read Professor Lucas' report, you heard the evidence -- some part of Dr Mirakhur's and certainly Dr Squier's.

A. Yes.

Q. And they were essentially referring to three types of autopsies, I think. A hospital one, where you're actually trying to learn something, and the clinicians become very much involved in that because that's part of what they want to do.

A. Yes.

Q. A coronial one.

A. Yes.

Q. And a Home Office one, if you like?

A. Yes.

Q. I wonder if we can call this up and see if this helps for how things happened in Northern Ireland. It is the report on the State Pathologist's Department, the consultation document for January 2003, but it has a sort of retrospective bit. 306-074-007. If you look at that third paragraph under section 2.3, which starts:

"Unlike the situation in England and Wales ..."

Can we see whether, so far as you're concerned -- that is certainly dealing with how things were in

2003 -- whether that represents what was happening in 1995 when you were there because they make a distinction between what the State Pathology Department pathologists do in Northern Ireland and what they do in England and Wales. Do you see what I mean?

A. Yes, that's accurate.

Q. So in Northern Ireland, you wouldn't have the hospital pathologists -- say for example, Dr O'Hara or Dr Herron, maybe -- carry out coroners' post-mortem, you would bring in somebody from the State Pathology Department?

A. Actually, they could because they were on the Royal site or the City site. Anywhere else in Northern Ireland -- Craigavon, Altnagelvin, Omagh -- no hospital pathologist would carry out a coronial autopsy; the State Pathologist's Department carried those out. However, in the Royal, and the City, there was some discretion. Where the line was, I can't really remember, but if there was going to be an issue of independence -- particularly if it's a perioperative death -- they would refer the case to the State Pathologist's Department.

Q. I'm just looking at that final rather last two sentences:

"Pathologists within these hospitals [that's the Royal Victoria Hospital and Belfast City Hospital] are cited on the approved coroner's list and will therefore

undertake routine coroner's cases that occur in these hospitals unless the death has occurred in Accident & Emergency or is in some way suspicious or [and this I think is what you're talking about] where an allegation of medical negligence is made. In such circumstances, the neutrality of the State Pathologist's Department is required."

A. That's correct.

Q. Even though the allegation of medical negligence hasn't yet been made -- maybe you don't have the information to be able to reach such a conclusion -- but there is a concern about the involvement of a clinician or a number of clinicians. Could it also be in those circumstances that the hospital would itself say, "Look, let's just bring in somebody from the State Pathologist's Department. They're independent and they can carry out the autopsy"?

A. Yes, or sometimes the coroner, Mr Leckey, would insist on it.

Q. I suppose if it's a coroner's inquest, it would be more likely to be him that would be doing that?

A. Yes.

Q. Okay. That's helpful. I wonder if, while we're on that document, if we could go through a few more parts of it to see whether this has gone past what the practice was

in 1995 or represents it. If perhaps we were to go to 306-074-012. That's a section called "3.4, paediatric and high risk cases".

A. Yes.

Q. And it says:

"Since late 2001, all paediatric cases are conducted jointly between a pathologist from the SPD [that's the State Pathologist's Department] and a paediatric pathologist from the Royal Victoria Hospital. All paediatric cases are dealt with at the Royal Victoria Hospital."

And then it goes on to talk about things that don't really concern us. It describes that as being the practice since 2001, but did it not sometimes occur even before that that you would have the involvement of a paediatric pathologist?

A. I can only answer for the time that I was in the department, so that is up to 31 December 1996. Any paediatric case which involved the sudden unexpected death of a child at home -- not in the hospital environment -- it was done solely by us, the State Pathologist's Department and I cannot say when joint autopsies came into being because I left the department in 1996.

Q. If you had an unexpected paediatric death in hospital,

did you not sometimes involve a paediatric pathologist?
A. No, not in my time in the department, no.
Q. Well, might the coroner ask for it? Because Professor Berry was a paediatric pathologist and he became involved in Adam's autopsy.
A. Yes.
Q. So might it happen like that?
A. I think, just referring to Adam's case, I think the main thing was independence, the independence of opinion. So as far as I can remember, back in 1995, there was only one paediatric pathologist in the department, which was Dr O'Hara. So they were employed by the same trust, and that would be within Northern Ireland. There is no other paediatric pathologist.
Q. So if you wanted some paediatric expertise and you were -- "concerned" may be a little bit strong -- but you knew that clinicians had been involved in the death in some shape or form, so you wanted to bring some objectivity and independence to it, that might be a circumstance where the coroner would seek somebody from outside the region?
A. Yes.
Q. As he did with Professor Berry?
A. Yes, but whether he would actually -- this is back in that time.

Q. I understand.
A. -- call a paediatric pathologist from the mainland to come over to do the autopsy, I don't know if he would do that.
Q. So what he might do is simply have the involvement for certain discrete areas of it to provide an opinion on this or to view the slides on that?
A. That's correct.
Q. Which is actually what Professor Berry was asked to do. He was asked to look at slides.
A. Indeed.
Q. Yes. Then I wonder if we can look at 306-074-011. This lists out the mortuaries where all this was taking place. Unfortunately, this only really deals with 1996 to 2001. But if you work your way down on the right-hand side, which literally has the locations of the mortuaries, you'll see "Royal Victoria Hospital", you'll see "Forster Green". In 1996, so I don't know whether this takes in some part of 1995, but in any event, there were 55 done at the Royal Victoria Hospital and there were 686 done in Foster Green. In fact, if you look all along, Forster Green does seem to be the main mortuary; is that correct?
A. That's correct. Forster Green is known as the public mortuary, so as you can appreciate, most of our deaths

are sudden and unexpected. In other words, somebody who collapses and dies in the street. If it's in the jurisdiction of Belfast, the body would have been taken to Forster Green, not to a hospital.

Q. I understand. So the fact that so many autopsies took place in Forster Green doesn't have any bearing on this particular one happening in the hospital because Adam died in the hospital and it would be more usual for his autopsy to take place in the hospital?

A. Absolutely.

Q. Would there be any circumstances in which --

THE CHAIRMAN: Sorry. Just be careful about the language. When you said it'd be more usual for Adam's autopsy to take place in the hospital, it's not quite in the hospital, it's on the general site of the Royal hospital, but that includes an area which is the State Pathologist's Department.

A. But the mortuary of the Royal Victoria Hospital is housed in that building, yes.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: So that's a shared mortuary? It's not a mortuary that is the State Pathologist's Department's mortuary?

A. It is not. Their mortuary is at Forster Green.

Q. Thank you. Would there be any circumstances in which

you would seek to have the autopsy of somebody who had died at a hospital carried out not at the mortuary on the Royal Victoria site, but at Forster Green?

A. Only if the facilities were inadequate.

Q. So there would be no reason for -- none of your independence points that you put that would take you to Forster Green?

A. No, none.

Q. Thank you. I wonder if we can turn also to the guidance. Yesterday, you would have heard when I was taking Dr Squier through her evidence, that there was 1993 guidance --

A. Yes.

Q. -- for pathologists, and then she also attached to her second report 2002 guidance, which took over the 1993. It's that guidance I would like to take you to because it's more full.

A. Yes.

Q. And it sort of takes up the position from 1993. If you can help us with how much of that was likely to have been applicable or you believe was applicable in 1995. I mean in practice, obviously, not the guideline, it didn't exist yet. So where to go is 206-004-070.

Just so that you orientate yourself, that is what I'm talking about. Are you familiar with that?

A. I am indeed, yes.
Q. Thank you. There are just a few sections I would like to take you to.

If we go to paragraph 4.4.2, which is to be found at 206-004-079. This is a part of one of the sections that we pulled up yesterday:

"Where it's thought desirable the pathologist performing the autopsy should not be a trust colleague of the clinicians involved, there may be a conflict of interest ... a choice is to be made ... an outside independent pathologist possessing appropriate skills may come to the hospital."

And so forth. Am I right in understanding that that issue had been resolved in Northern Ireland by the fact that it's pathologists from the State Pathology Department who carry that out?
A. Absolutely because on the mainland, it is a doctor from another trust who travels to the mortuary. But in Northern Ireland it would be the State Pathologist's Department for the independent view.
Q. Therefore, the only independence point would be -- well, maybe you can help us. Does the independence point then turn into maintaining your independence in your discussions with the clinicians?
A. Sorry? Could you ask me that again?

Q. This issue is all talking about independence and making sure there's no conflict of interest. Then, for you, that turns into making sure that you have an appropriate distance and independence of thought from the information you're getting from the clinicians.

A. Yes. I have independence of thought in any event, but it is how it is seen. I'm employed by the State Pathologist's Department; I am not employed by the Royal Victoria Hospital trust. So if anybody was to say: you have been pressurised to say X,Y, Z because you are employed by the same trust as this doctor, it is to be seen that I'm employed by somebody else and that pressure could never be brought to bear. Not that it would in any event.

Q. I understand that. But do you still not have to be careful about your interactions with them?

A. Oh absolutely, but to carry out an autopsy, particularly on a perioperative death, it is imperative that you talk to the clinicians. You can't do it, really, without them. The only times I haven't talked to the clinicians are from the outset and these are cases on the mainland where the police are investigating for medical negligence and gross medical negligence and manslaughter and I'm told I cannot speak to them, but this is what they have said and they have it in writing for me, but

I can't speak to them.

Q. Thank you. That's very helpful. Now that you mention it in that way, there's something I would like to take you to so that we clear up how it arises. There is a memo that I think you will have seen from the coroner. Let me give you the reference. It's 011-025-125. We'll probably come to this in a little while about other things, but just on that point that you raise, to orientate you, this is a memo that the coroner has made on that date and it actually covers a number of dates. Probably as early as 28 November. Certainly the 29th and the 1st, and, of course, the 8th itself.

A. Yes.

Q. Why I ask you this is, if you go to the bottom paragraph, almost halfway down it says -- and I think this is a discussion with you.

A. Yes.

Q. "She said that if one excludes the problem with the anaesthesia [which is obviously something you're looking into] and if one excludes a problem with the anaesthetic equipment [which is another thing that people are looking into], then that leaves the 'Beverley Allitt' scenario."

A. Yes.

Q. The Beverley Allitt scenario is an intentional causing

of death.

A. Absolutely.

Q. Who raised that as a possibility?

A. I cannot recall, but I do remember discussing this case -- it would have been the next day because I carried the autopsy out in the afternoon. So I would have discussed the case the next day with my colleagues in the department. I do know for a fact I discussed it with Dr Derek Carson and Alan Cromie was also there. What I can't quite remember is if John Press was there or not, although I think he was there. The only person who wasn't there was Professor Jack Crane. We had this discussion and they said that I must ensure there's nothing wrong with the anaesthetic equipment. It's not good enough to have it just tested by the, you know, the trust, it has to be done independently. And I can't remember who raised the deliberate malevolent act, but it would have been raised at that point.

Not that I thought there was a deliberate malevolent act because if I was, I would have been on the phone to the coroner straightaway. And although I can't really recall, I am pretty sure Derek Carson would have said, "Alison, why don't you go and discuss it with Dennis [Dr Denis O'Hara, he's a paediatric pathologist] and see what he thinks". And I think I would have gone that

morning to see Dr O'Hara.

I think Dr Bharucha just happened to be in the room. I didn't go to see both of them; I went to see Dr O'Hara. And as far as I can recall -- although I have very little recollection of the event -- they said the same thing: you've got to check the anaesthetic equipment and make sure it's not ischaemia, hypoxia. That's what you have to do.

Q. What you have in your mind then is the care with which you have to approach this --

A. Absolutely.

Q. -- because there could be all sorts of reasons why the brain swelling, if we call it neutrally that, has happened?

A. Absolutely, and I was a long way down the line of a trained forensic pathologist at this stage, and we do think differently. And we do think -- I mean, it's a terrible thing, Beverley Allitt was a terrible thing, but we do think in that way.

Q. And does that impose a kind of care with how you approach the information that's given to you by the clinicians who are directly involved?

A. Absolutely. But for the most part, in my experience, clinicians are honest --

Q. Yes.

A. -- individuals.
Q. Yes, they're not trying to harm their patients.
A. No.
Q. It's a consideration that you had in your mind?
A. Yes, after discussion with my colleagues, yes.
Q. Okay. Sorry, just before you raised that, we were at 206-004-079. Then I wondered if we could then go to the next page, 080 and, at 4.6.3, it talks about the depth of the analysis, including the use of histology.
A. Yes.
Q. And in this report, it talks about how that needs to be agreed formally between the coroner and the pathologist. What I'm asking you is, in 1995, to what extent did you have these discussions with the coroner to get a steer as to the scope that he wanted you, if it worked that way, to cover in terms of your autopsy?
A. You mean regarding how much histology should be taken?
Q. Yes.
A. None. It was very different in 1995. I appreciate that Bristol and Alder Hey had a massive impact on how pathologists worked and you cannot take -- my hospital colleagues cannot take histology from a coronial autopsy any more unless they have the agreement of the coroner. Back then, no such agreement was required. We would just take the histology that we thought was relevant and

needed. We didn't seek anybody's permission.
Q. Did you have any sort of discussion with the coroner as to -- maybe I phrased it badly when I said "the scope of it" -- exactly what he wanted you to look at and in what depth he wanted you to look at anything? Did you have any sort of preliminary discussion with the coroner of that nature?
A. I do recall discussing the case with Mr Leckey, but I cannot recall the subject matter of the conversation other than what you have highlighted to me because I must have said something like that. I cannot recall any such conversation regarding the depth or the scope with the coroner. I cannot recall.
THE CHAIRMAN: In other words, then, this paragraph comes about because of Bristol and Alder Hey?
A. That's my view, Mr Chairman, yes.
MS ANYADIKE-DANES: Well, on that point, if we go back to Mr Leckey's note of 011-025-125 -- because this may help actually in how the thing came about. There we are. If we're in that first paragraph, this is now Mr Leckey recalling his conversation --
A. Yes.
Q. -- if I can put it that way.
A. Yes.
Q. He's saying that Dr Maurice Savage reports the death to

him and the death was totally unexpected.

A. Yes.

Q. And he recites the problem. This is Mr Leckey's own record of it, so I'm not saying this is verbatim:

"In the course of the operation, nothing appeared on the anaesthetic monitor to indicate anything was wrong ... surgery completed ... unfortunately that's when they realised there was a problem."

Then Mr Leckey says:

"I said there would have to be a post-mortem examination."

And then there's a little issue as to whether Adam's organs can be used and released for transplant purposes.

Then the way it comes in is that Mr Leckey then says that he speaks to Professor Crane --

A. Yes.

Q. -- to see whether that will present an impediment to the autopsy that's going to be carried out, I presume. And Professor Crane takes a view that actually he feels that all the organs ought to be retained, which is pretty much along the lines of the point that Professor Lucas was saying in his report, that in their unit they would have retained the heart, for example. But anyway, that's what Professor Crane's initial view is and they subsequently think it can be released for the heart

valves and that's discussed with Professor Crane. Then immediately after that, it says:

"The post-mortem was carried out the following day by Alison Armour."

A. Yes.

Q. One way of reading that is that the communication about the post-mortem is all with Professor Crane --

A. Yes.

Q. -- and Professor Crane is then going to allocate someone in his team to do it.

A. That is correct.

Q. Is that what happened?

A. Yes. Can I comment on the organs for transplantation?

Q. Yes. Of course.

A. To transplant organs that are required for the living, the person still needs to be on the ventilator.

Q. I understand that.

A. I think the ventilator was turned off. In other words the only chance that anything from Adam Strain could be harvested in this case was the heart valves. You couldn't have taken the lungs, the liver, the kidneys, because the child was dead.

Q. So --

A. So the only possible organ for transplantation was the heart and it was the heart valves. And back in 1995,

the entire heart was taken. I know the practice has changed since -- you can just take the heart valves now -- but in 1995 the whole heart was taken.

Q. If you're going to do that, do you have any chance as a pathologist to examine that heart?

A. Absolutely.

Q. So it can be done?

A. Yes, and it looked normal. Adam Strain's heart looked normal, yes.

Q. Okay. Although it seemed to be slightly heavy or large?

A. I disagree. For the height and the weight of the child, I thought that was normal.

Q. I understand. Had you not thought that, would you have recorded that?

A. I would have, absolutely, yes.

Q. Thank you very much. So in any event, the way you were brought into this, if I can put it that way, is that the initial communication is with Professor Crane?

A. Yes.

Q. And Professor Crane then allocates amongst his pathologists; is that right?

A. Yes. I can tell you the workings of the department.

Q. Yes, please.

A. The cases would come in all day, the secretaries will take down the details of the case, and it's usually

a police officer or it might be a coroner's officer phoning in, but usually a police officer. They give the name of the deceased, they give the date of birth of the deceased, they give the date of the death and they give a very brief summary, like "history of ischaemic heart disease, found dead, collapsed in street". So there's a very brief history. The cases are then allocated at 10 am. We would all have coffee in the tea room and it was usual that Professor Crane would allocate the cases. If he was not there, Dr Derek Carson would allocate them and if he was not there, Dr John Press would allocate them.

Q. Do you know on that occasion whether Professor Crane was a person who allocated them?

A. I knew you were going to ask me that. I cannot recollect, but I think it was Professor Crane.

THE CHAIRMAN: Is that because he was normally there to do it?

A. Because he was normally there to do it, yes.

THE CHAIRMAN: So the probabilities are that he was there, but you can't specifically remember?

A. Yes, the probability was that it was Professor Crane.

MS ANYADIKE-DANES: And when they're being allocated, on what basis are they allocated?

A. I don't really know. Maybe Professor Crane could answer

it. I don't know. He would look at the cases and he would say, "Here's one for you, Alison, this is a suitable one for you", and then he would say, "Derek, there's this one up in Altnagelvin, would you mind doing Altnagelvin?" I don't know, he would just allocate them.

Q. This is a question for him, but in case you know the answer, since he's selecting the pathologists to do it, if at that stage he feels that that pathologist may need some assistance because you had referred to there being a trainee there, that's the time to be able to make that arrangement, I presume?

A. Yes, and to be honest, the perioperative deaths, although if you want to call them ... The hospital coroners tended to be done by myself and Dr Cromie. We tended --

Q. And, sorry?

A. And Dr Cromie, Alan Cromie. Myself and Alan tended to do the perioperative coronial deaths that occurred in hospital.

Q. So given that that's what this was, it was pretty standard that you would get it unless you were otherwise involved in something?

A. There was nothing unusual.

Q. When they are allocated, you have also made reference to

some discussions that you had with your colleagues. How much discussion typically is there between you all about the cases that you are engaged in?

A. At the time that they are allocated?

Q. No, no, when you're doing them or in the midst of doing them, if I can put it that way.

A. I would regularly discuss my cases with my senior colleagues and with Alan. He had a wealth of medical knowledge. And I would regularly discuss them, but it would be on an informal basis. I would just go to Derek and say, "Can I discuss this case with you? What do you think of this?", and the same with John Press and the same with Alan.

Q. Thank you. But that kind of discussion, just so that we're clear on it, is a different thing from deciding, "Maybe I'll just go and speak to Dr Mirakhur about something or show her some slides".

A. I don't want to say it happened daily, but it's part of my professional life, yes.

Q. Now that you mention the report that comes in and maybe is the basis upon which the allocation is made, if I pull this up and tell me if this is the sort of thing: 011-022-122. This is the report of, I think it's Constable Tester, actually, to the coroner, but I'm looking at the medical history. Do you see that

description of the history and the circumstances?

A. "Has had a kidney complaint since birth and has undergone urological surgeries. Was ..."

I can't read the next word.

THE CHAIRMAN: "Nourished"?

A. Yes.

MS ANYADIKE-DANES: "Was nourished by means of a gastrostomy tube. No solid food. Had had a kidney transplant on the 27th. Failed to breathe for himself after surgery. Suspected that his brain had swollen, acute cerebral edema."

Maybe not the "acute cerebral edema", but is that the sort of information that you would get?

A. Absolutely. That looks like the piece of paper that the secretaries would take the information down on, yes.

Q. Would you have something like acute cerebral oedema, even at that stage?

A. This is very good. Some of the histories we got were so short, it was unbelievable, and for such a complicated medical case, even though it's a very short synopsis, it is very good and the "acute cerebral edema", it does look like it's written by somebody who's not medically qualified as it is E-D-E-M-A. Yes, it was there right at the start.

Q. Thank you very much. Then just because I'm trying to

find out what's guiding you at this time, if we go to -- we were at 080. If we can go on to 083. This is a section that starts with "audit".

A. Yes.

Q. And the whole of section 5 is actually dealing with audit, but if we go to 083, these are a series of recommendations in relation to the audit of autopsy and clinical practice.

A. Yes.

Q. Again, if you can help us with which, if any, of these represented practice in 1995.

A. Yes.

Q. If for example we look at 5.5.6, discussions with the coroner on the issues of clinical governance are required. I think that's the point you were making.

A. Yes.

Q. "Current advice to coroners, legislation and case law favour advanced disclosure of autopsy findings to interested parties and coroners should be encouraged to agree to the use of their autopsy reports in clinical audits."

The use of those in clinical audits, albeit that clinical audits may in themselves be at a rather early stage in 1995, but that kind of sharing of information, if I can put it that way, did that happen in 1995?

A. That's what I'm really not sure about because I do know many of the clinicians did want to know why a person died. But they were not allowed access to the autopsy report. And I'm speak generally. I'm not speaking about Northern Ireland in particular and I do know it was in existence on the mainland and some coroners are very strict and they do not release the autopsy report until the inquest. Clinicians find this very difficult because they do want to know why the person has died for training, learning, and they find it very difficult. I just can't remember how it was in Northern Ireland in 1995.

Q. Okay. Then if we go to 5.5.7, this is:

"All autopsies should be performed by consultants or trainees under consultant supervision. Trainees with insufficient autopsy experience must not be left unsupported to perform difficult cases."

It's difficult to disagree with the second sentence, but in terms of the first sentence, I think you were describing a slightly different scenario --

A. I am.

Q. -- whereby you could be treated as a consultant --

A. Absolutely.

Q. -- if you were qualified to be one?

A. Yes.

Q. If I can put it that way.
A. Yes.
Q. And if one were to augment that paragraph with that bit, does that paragraph represent what was happening in Northern Ireland in 1995?
A. It was both myself and Alan Cromie who carried out autopsies with no supervision.
Q. But because you were at that level?
A. Absolutely.
Q. If you hadn't been at that level, would you have required some sort of supervision from your line manager or a more senior colleague?
A. Are you talking about if I was in the forensic pathology department?
Q. Yes.
A. To be honest, I don't think I would have applied for a job at such a junior level to go into the State Pathologist's Department where I'm looking for specific training on homicide. I would have gone and got my training elsewhere.
Q. I understand. So in other words, that actually didn't really apply --
A. No.
Q. -- to the pathology department at that stage because everybody in it had that level of expertise?

A. That's correct.
Q. Thank you. Then if we look at 5.5.9, which is one that I think your counsel pulled up yesterday:

"If the case involves a perioperative or peri-intervention death, it is often advantageous to have the operator/surgeon/whomsoever assist in the autopsy dissection. Clarification and documentation of the often complex procedures and morbid anatomical results is more important than any potential conflict of interest if an adverse clinical event is thereby recognised."

In other words, if they can help you recognise something you might not already see. Does that represent what would have happened in Northern Ireland at 1995?
A. To have a surgeon come down to the mortuary and assist in dissection?
Q. Or have the clinician in some way involved?
A. For the clinician to come down? Yes, clinicians did come down -- I know they did -- and relay information to me.
Q. Literally as you were performing your autopsy, discuss what you were seeing or looking at?
A. That was a bit difficult for some of them because they had cared for the patient in life and some of them found

it incredibly difficult. They would come down and say, "Alison, there's this, this, and this, I cared for this man during life and I can't bear to watch it, so I'm going". That was with most really. Any clinician was welcome to stay and watch the entire autopsy. It's not a problem. But most chose not to.

Q. Apart from their own learning, to learn better what had happened, if they stayed, were they able to help you?

A. This is where I'm trying to remember people staying. That's very difficult, trying to remember people staying.

Q. No, no, if you can't, that's fine. It's a long time ago and an awful lot of autopsies have passed, I'm sure.

THE CHAIRMAN: I presume it also varied from case to case and doctor to doctor.

A. It definitely did, Mr Chairman, yes.

MS ANYADIKE-DANES: If we just look then at the one immediately below that, 5.5.10:

"If evidence of an adverse clinical event is identified during the autopsy involving intravenous lines misplaced or something of that sort and it is considered to be a significant factor in a death, the relevant clinician should be invited to come."

As it happened, Dr Savage was there, we understand. I think he was Professor Savage then. Can you recall if

Dr Taylor was there or you simply had discussions with him?

A. Firstly, I cannot recall Professor Savage being there, but evidently he was.

Q. Okay.

A. I cannot recall Dr Taylor being there, but I do recall some sort of discussion. I can't remember if it was before I started the autopsy, after the autopsy, either that day or the following day, but I know I discussed the case with Dr Taylor very early on. But I can't remember the exact time, I'm sorry.

Q. No, no, that's all right. Under this audit part, there's one final bit to draw your attention to and see if you can help us with this. Over the page at 084, this is 5.5.16. It talks about regular mortality meetings with clinical directorates that include the active participation of pathologists where autopsies have been performed."

Leaving aside these recommendations, which have been minuted and so forth, it says:

"The medical directors of hospitals should encourage mortality meetings through clinical governance and discrepancies between clinical and autopsy diagnoses should be discussed openly at such meetings."

Presumably for furthering learning: "We thought

that, but this is what we found".

A. Yes.

Q. Did that happen in 1995?

A. Not to my recollection.

Q. Did anybody ever discuss the possibility that it might happen?

A. I can't recall.

Q. Does it happen now where you are?

A. I'm a Home Office pathologist on the mainland and I only do suspicious and homicidal deaths; I do not do routine coronial autopsies, but I am aware there are mortality and morbidity meetings within my trust.

THE CHAIRMAN: Let's just pause one moment. I just want to clear up one ambiguity. This refers to "mortality meetings, including the active participation of pathologists".

A. Yes.

THE CHAIRMAN: You say that wasn't happening in 1995 in Belfast.

A. I was never at a mortality meeting in Belfast.

THE CHAIRMAN: So if there were mortality meetings going on in Belfast, it wasn't with the active input and presence of pathologists?

A. From the State Pathologist's Department.

MS ANYADIKE-DANES: Exactly. I was just going to ask you

that. Could it be that they might have been doing that but they involved their own pathologists who had been conducting the -- actually no, they didn't conduct hospital ones.

THE CHAIRMAN: It's a different autopsy.

MS ANYADIKE-DANES: Exactly.

A. Hospital pathologists in the Royal and the City did carry out some coronial autopsies, they did. You saw them, A&E, non-suspicious, non-litigious, they did. So they may have, but I never attended a mortality or morbidity meeting.

Q. But the State Pathologist's Department would be involved in those where there was some suspicion or some consideration that there was negligence involved?

A. Absolutely, yes.

Q. So they might have had meetings, but you weren't involved in them, so if they were having meetings that circled around the issue of medical negligence, so far as you were concerned, you weren't aware that they had those kind of meetings because you weren't invited to involve yourself in them?

A. That's correct, yes.

Q. Okay. Can I put it to you this in way: given what you were doing in Northern Ireland and what you were seeing and learning from it, do you think even in 1995

that would have been a helpful development?

A. Absolutely.

Q. There's just a few more of these sections. I'm sorry to take you through it in such detail, but it's very helpful for us to see what the scene might have been in 1995.

A. Yes.

Q. If I can take you to 088, this section 7, which is I think the last section I want to take you to. This is really dealing with the autopsy examination.

A. Yes.

Q. If you can help us with that. The first thing that I would like you to help us with is 7.4, which deals intravenous IV lines and devices. It says:

"If the patient has died with tubes, IV lines, cannulae, et cetera, inserted, the cadaver should come to the mortuary for autopsy with all these medical devices in situ."

Then it says:

"Nurses may wish to remove them [I presume for the family's sake], but hospital clinical governance guidelines must make clear those circumstances where such medical devices must not be removed and specify permissible means of facilitating viewing and preventing dislodgement or leakage to minimise risks to health and

safety."

Cast yourself back to 1995: did the bodies come to you with their lines in situ?

A. Yes, they did.

Q. Did Adam have his lines in situ?

A. I'm pretty sure he did, yes.

Q. The central venous line?

A. I can't remember if the central venous line was in situ still. Um --

Q. We have a photograph of him, which you have probably seen, which doesn't appear to disclose a line, but it may be that I'm not good at spotting these things. We'll pull it up in a minute. If it wasn't there, would it have been helpful to you if it was there?

A. Yes. We would have said, at that time, "Please can you leave the lines in?" But it didn't happen in every case. I know it didn't.

THE CHAIRMAN: Can you think of a particular reason why this line would not have stayed in place?

A. I can't, no.

MS ANYADIKE-DANES: Let's pull up 300-080-155. If he had a line in, would you be able to see it?

A. On that photograph?

Q. Yes.

A. No.

Q. I'm sorry, it may be distressing, but if we go back a photograph. Are you able to see a line?
A. No.
Q. From these photographs, you can't tell whether he did or didn't?
A. No, I can't tell.
Q. If he did have it in, is it something that you would record in your report?
A. Yes.
Q. I'm not sure that I recall seeing it in your report.
A. Neither do I, so it tends to suggest it was not there.
Q. Did I understand you to say that it would be useful if it was in so that you could see exactly where it was and what surrounded it, if I can put it that way?
A. Yes, and my recollection of the time, if anyone died a perioperative death, we did say, the State Pathologist's Department, did say, "Please can you leave the lines in?", but that didn't always happen --
Q. No, I understand that --
A. -- in 1995.
Q. When you say that, "the State Pathologist's Department says that", does that mean there are communications between the State Pathologist's Department and the hospital as to how they would like these things managed?
A. Yes. Yes, there was.

Q. Would that be as formal as a memo of some sort or did you have meetings where that would be discussed?
A. I don't recall a memo and I don't recall meetings. It probably would have been a verbal communication.
THE CHAIRMAN: From who to who? Dr Crane?
A. Professor Crane probably, yes, and maybe George Murnaghan. Maybe that would be the line of communication. It would have been to a senior clinician, yes.
MS ANYADIKE-DANES: We'll just go quickly to your report on autopsy. You have, I think, sought to identify what you can still see.
A. Yes.
Q. If we go to 012/2, page 36. If you look just under "abdomen", it says:

"A bladder catheter protruded from the lower end of the left side of the abdomen and there was a further drain in situ just at the level of pubic bone, corresponding to the donor ureteric catheter."

So that looks as if you are recording what is still there from these devices?
A. Yes, and further up on the chest, I have said there were:

"... a number of bruised needle-puncture marks on the right side corresponding to a subclavian line."

Q. Exactly.
A. So it seems to imply the subclavian line was not there.
Q. Yes, because if it had been there, that's exactly where you would have put it.
A. I would have said, yes.
Q. I understand, thank you. Then there's -- if we go over the page to 89 on "dissection", leaving aside 7.5.2, which talks -- the final sentence -- about "best examined with the appropriate clinician". Maybe not leaving that aside. What does that mean when it says:

"The sites of complex recent surgery are best examined with the appropriate clinician present."

Who do you understand in those circumstances to be the appropriate clinician?
A. The person that put the lines in or the drains in --
Q. Surgeon?
A. -- or the surgeon. So an anaesthetist puts the subclavian line in, the surgeon's going to be putting the abdominal drains in. I presume the surgeon would be putting a suprapubic catheter in, yes.
Q. Did you have any communication with Mr Keane?
A. I have no recollection of communicating with Mr Keane, no.
Q. Did you have any discussions with Professor Savage?
A. I have no recollection.

Q. That's fine.
A. But I may have; I can't recollect.
Q. I understand. Then the paragraph immediately after that talks about how all the major organs should be dissected and so forth.
A. Yes.
Q. Then if one works down to the final sentence in that paragraph, which is 7.5.3, it says:

"These organs should be separated and weighed. If permitted and clinically relevant, fixation of the intact brain followed by a detailed examination by a neuropathologist produces a higher detection rate of abnormalities."

Firstly, would you accept that?

A. Absolutely, yes.
Q. And in 1995, though, did the State Pathologist's Department involve neuropathologists in the way that's being described there?
A. No. In 1995 the forensic pathologists did their own neuropathology.
Q. Is there a reason for that?
A. Because back then -- and it does sound a bit like Lancelot Spratt -- forensic pathologists did receive very good training for neuropathology. It was part of our training process. And I don't want to say they

thought that they could do the job very well, but that --

Q. But they did?

THE CHAIRMAN: But they did?

A. But they did, and it was only later, as some sort of serious cases came along, where it was realised actually you might need a neuropathologist, that the practice changed. But in 1995, in the State Pathologist's Department and on the mainland, forensic pathologists did their own neuropathology. I think they only would have ever sought advice from a neuropathologist for something like dementia or a mitochondrial abnormality -- something very, very rare -- but they would not have asked for a neuropathologist in 1995 and that was on the mainland as well. I think the practice started to change maybe 1998, 1999, 2000. It was starting to change then and it has very definitely changed now.

Q. Because it becomes a point of learning?

A. Absolutely.

Q. What you produce actually is the starting point of the lessons learned?

A. It is, and it's also the development of pathology. Pathologists are now becoming more and more sub-specialised. When I started -- just in my NHS job

for instance -- there wasn't really much sub-specialisation. But now I specialise in lymphoreticular pathology and I do very little of other types of pathology and that's the way our sub-specialty has progressed and it's also progressing in forensic pathology. We would ask the opinion of a paediatric pathologist.

Back in 1995, there were no joint autopsies with paediatric pathologists and forensic pathologists, none. So it is a progression and I think it is good, it's a good practice.

Q. Just while you say that, actually you did go and seek the opinion of Dr Mirakhur.

A. I did.

Q. Which may have put you slightly ahead of your time in doing that. You did do that?

A. I did.

Q. You also recorded her name in the same way as you recorded Professor Berry's name. You recorded her name in your autopsy report.

A. Yes, I did.

Q. Can I ask why you did that?

A. Although, again, I cannot recollect the actual sequence of events, I know I gave the slides of the brain and the spinal cord to Dr Mirakhur. I didn't ask for a formal

opinion but I said, "I wonder if you would mind [although I can't recall this, this is how I'm sure I'd be] looking at these slides". I would tell her about the case and I would say, "All I found was cerebral oedema. I cannot see any ischaemic hypoxic change, but this is quite a crucial part of the case and I wonder if you would kindly look at the slides". And she agreed to.

Q. Can we pause there a minute? What made you go to her?

A. I wanted a neuropathology opinion. I usually would have gone to Professor Allen, so maybe Professor Allen wasn't there that day and I went to Dr Mirakhur.

Q. And what did you expect that she would do?

A. I expected that she would look at the slides and that she would tell me her view. What I can't quite recall is if she looked at the photographs of the brain and spinal cord as well. But I would have made her aware that if she wanted to see photographs of the brain, they're readily available. I would have made her aware of whatever she needed to come to her opinion.

Q. There is a difference in the way that you solicited her assistance --

A. That's correct.

Q. -- and the way that you solicited that of Professor Berry. Because Professor Berry received a --

well, effectively a brief. He received a letter with the medical notes and records. He recites at the beginning of his report what he received -- sorry, just so that we're clear. 011-029-151. This is your letter to Professor Berry.

A. Yes.

Q. There in those five points, it's what you're providing him with. So he has the medical notes and records. Sorry, is that what that means?

"Copies of notes in this case."

Does it mean Adam's medical notes and records?

A. Yes.

Q. And then obviously when it says "the consultant anaesthetist's report", what does that mean?

A. Yes. Um ... I don't know if that would have been a report by Dr Taylor. I don't know if it would be a report -- what date is it, 22nd? That's very early on. Yes, a report by Dr Taylor. I don't know. "Consultant paediatric nephrologist's report."

Q. You obviously had whatever it is, you have it.

A. Yes.

Q. So let me show you some documents that we have that were forming the basis of the depositions to the coroner to see if you can help with what you were sending him. Let's, for example, pull up 011-001-001 because you also

say you sent a consultant paediatric nephrologist's report. Here we are. This is a statement of Maurice Savage.

A. Yes.

Q. If you go over the page to 002, there, you'll see it's dated "28 November".

A. Yes.

Q. So, so long as that came into your hands at that time or any time before 22 December, that would be available.

A. Yes.

Q. Is that what you're talking about?

A. It is. I'm pretty sure it is, yes.

Q. There is one, an equivalent of that for Dr Taylor, which is 011-002-003, except it's a bit lengthier. If we go to the next page, 004, you'll see he signs it.

A. Yes.

Q. And then there's a bit that gets added on, and I wonder if you can help with whether you got all of this at any point. If we go over the page to 005, it starts with something slightly different where he has it all categorised. You have "polyuric renal failure", "difficult IV access". Over the page again, you see "haemodynamic considerations". Over the page again, you have "intraoperative fluids" --

A. Yes.

Q. -- dealing with glucose, which is something that you mention.

THE CHAIRMAN: Does this ring a bell?

A. It does look familiar, yes, it does.

MS ANYADIKE-DANES: The sort of things I think you said you were thinking about, if we go over the page to 008, you see things he's discounting -- which is a checklist that somebody was describing they had in their head, not literally this one -- "cardiac arrest", "equipment", "fluids". Over the page, 009, "brain insult".

A. Yes.

Q. And then he ends up with the conclusion because he's eliminated all of those things:

"I can only assume that something occurred during this case which defies physiological explanation."

Anyway, leaving that comment aside, are these the documents that you'd have had and would have been part of what you were sending to Professor Berry?

A. Yes. Some of this document does look familiar, but not all of it.

MR FORTUNE: Sir, could we find out from Dr Armour whether in fact Dr Armour asked for any reports or was merely sent the reports, and if so, by whom? Probably Dr Murnaghan. I'm just wondering whether there was any exchange of either conversation between Dr Armour and

Professor Savage or correspondence to elicit the reports.

MS ANYADIKE-DANES: Do you know how you got them?

A. I'm really sorry, I cannot recall how I got them.

Q. How would you --

MR BOYLE: I may be able to assist on this point, perhaps. If one brings up 059-052-107, there's a memorandum from Dr Murnaghan to Dr Armour. I appreciate it's dated 7 February of 1996. But it appears to be a memorandum enclosing the letter that Dr Taylor or the report that Dr Taylor wrote to Dr Murnaghan dated 30 November.

THE CHAIRMAN: That's fine, but she would have to have obtained it earlier to have written to Professor Berry in the way in which she did, wouldn't she?

MS ANYADIKE-DANES: Yes, and there are some communications from -- I was going to come to those actually -- Dr Murnaghan --

A. Yes.

Q. -- to you --

A. Yes.

Q. -- behind those communications you can see because we have it on the coroner's file, the communication from Dr Taylor to Dr Murnaghan --

A. Yes.

Q. -- that led to that. I was going to come to that.

A. Yes.
Q. Because I don't think they entirely replicate all these documents we're talking about here. If you can bear with me and we'll just talk about these things that are being sent off to Professor Berry. So what I have shown you, you're not sure when you obtained all of that?
A. I am not, no, or how I got it, to answer the question.
Q. But some part of it you had in order to furnish it to Professor Berry?
A. Yes.
MR UBEROI: Sir, can I just ask for the witness to clarify whether she, in fact, remembers having those documents or whether she's doing her best to assist the inquiry by looking at the dates and saying, "Perhaps those are the documents that I sent [OVERSPEAKING]".
THE CHAIRMAN: I will clarify it, Mr Uberoi. Mr Uberoi represents Dr Taylor. You have just been taken through an early statement that Dr Taylor prepared, which looked familiar to you.
A. Parts of it did, Mr Chairman, but other parts did not.
THE CHAIRMAN: In the sense that they're familiar to you, is that because you have read them for the purposes of the inquiry or do you have a vague memory that you might have seen them at some point in 1995/1996?
A. I can't recall. All I can say is that they are familiar

or some parts of them are familiar.

THE CHAIRMAN: If you were sending statements by various people off to Professor Berry, then we assume that you yourself will have read those statements at that time --

A. I would have read them.

THE CHAIRMAN: -- because you have to check what you're sending to the professor.

A. Absolutely, I would have read them. I wouldn't have sent them without reading them.

THE CHAIRMAN: So perhaps inevitably, the open question is how exactly you came to ask for them and receive them.

A. I cannot recall.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: I'm looking at the time. Given the point that has just arisen, I think I know where some of that can be found to assist. Perhaps if we may have a break now, if it's convenient?

THE CHAIRMAN: Absolutely. We'll break for about 15 minutes.

(11.15 am)

(A short break)

(11.46 am)

MS ANYADIKE-DANES: Mr Chairman, there were a couple of queries really, just before we broke. The first query related to whether the documents that I had put to

Dr Armour were the same documents that are referred to in her cover letter to Professor Berry. The short answer is that we don't know.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: All we know is that she clearly had something because she was providing it to Dr Berry, but we don't know whether she had what I put to her.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: But we know one document, which is not one of those, and I'll come to that in a minute.

The other query that we had was Dr Armour, I think, had concluded that there couldn't have been the lines there, certainly not the CVP line, because she's dealt with the chest area and she hasn't referred to it. And just to be complete about that, if one looks in the nursing care plan, I think we can look at 058-038-150.

It happens in two places, actually, for good measure. This is the nursing care plan, this is signed off and dated the 27th. But under the 28th, at 8 am it says:

"Fluids discontinued and all lines removed as per Dr Savage."

And it's recorded in another place also, 058 --

THE CHAIRMAN: That's okay. That confirms that this is the morning after the operation and while Adam's in

intensive care.

MS ANYADIKE-DANES: That's correct. So they discontinue his fluids and remove all his lines, apparently as per Dr Savage, and there looks to be a time there: 1 pm.

MR FORTUNE: You will recall, sir, that Professor Savage was present at that time when the decision was made and then Adam was handed over to his mother.

THE CHAIRMAN: Yes, thank you.

MS ANYADIKE-DANES: Yes. Then there was just one issue, which I was asked to clarify. That relates to who's actually there during the autopsy. Dr Armour has said, quite frankly, that she can't actually recall that.

A. I can't.

Q. Dr Savage wrote to Adam's GP on 4 December. It's document 016-004-014. He refers over the page at 015 to:

"I have since attended a forensic post-mortem when no new information was obtained that would explain the events during his surgery, but confirmed the presence of gross cerebral oedema."

So it sounds like Dr Savage -- although in fairness to him, he said he couldn't actually remember it -- but he seems to have written that on 4 December to the GP. And one of the things I was asked to clarify with you is that although I didn't take you through it at all

really when I referred to it, which is the 1993 guidelines for post-mortem reports, if we were just to pull up 306-072-003. This is indicating really what should be in a post-mortem report. It covers all things --

A. Yes.

Q. -- so it's a guidance as well.

A. Yes.

Q. And if one looks down under the demographic details, one sees under "optional":

"Persons present at post-mortem, as appropriate."

One of them is ... Sorry, I beg your pardon. Go up above that, normally, there's a range of people, but the third person in that list of "normally" is the hospital consultant.

A. Yes.

Q. Professor Savage was Adam's hospital consultant.

A. Yes.

Q. Then there's an "optional" range, which it would look as if Dr Taylor --

THE CHAIRMAN: Sorry, be careful. The line above "normally" is:

"Details of the individuals to whom the report should be sent."

These aren't the people who are present, these are

people who should receive the report.

MS ANYADIKE-DANES: Sorry, that's correct. I misunderstood something that my learned junior was telling me. I didn't catch him correctly.

THE CHAIRMAN: That doesn't apply in a coronial autopsy for the reason that you gave earlier. That's a decision for the coroner about who the report will be released to before inquest.

A. Absolutely.

THE CHAIRMAN: And after inquest, it's a public document, so it can be released.

A. Yes, we just send a report to the coroner. That's the end of the matter for us.

THE CHAIRMAN: So this must presumably be a reference to a non-coronial autopsy?

A. Yes, because we would not send a report to a general practitioner or to a hospital consultant. We would not do that.

MS ANYADIKE-DANES: Sorry, Mr Chairman. These guidances are to cover all autopsies, whether coronial or not, and that is seen at 306-072-002:

"It's envisaged that these guidelines should serve for all hospital coroners and fiscal post-mortems other than Home Office cases."

So that's the scope of this guidance.

THE CHAIRMAN: Go back then to page 3. Thank you. The words in italics and brackets under "normally":

"In coroners' cases, it's highly desirable the report should be sent to the GP and consultant. The decision on issue and timing depends on the coroner's policy."

A. Yes.

MS ANYADIKE-DANES: What I thought we were looking at is an indication of who should be referred to as listed as whether they were actually in attendance or not.

A. Yes.

Q. What I've actually done is taken you to a section that deals with those who you should and those who you may send the report to, which is not the right section. I apologise for that.

Can I ask you this though: what was your usual practice in 1995, because it may be completely different now, as to if at all and, if you do, how you record who was actually there?

MR BOYLE: Can I interrupt very briefly? On that same document we're looking at under the heading "optional", it does have "persons present at post-mortem as appropriate". So it appears to have been an optional element to include those who were present at post-mortem in this guidance.

MS ANYADIKE-DANES: Yes, but I think this all relates to details of those individuals to whom the report should be sent. One of those is "normally" and the other is the "optional" ones. I think that's what the chairman was assisting us with.

THE CHAIRMAN: It's not very clear, Mr Boyle, but this lower half of the left column below, "details of those individuals", does appear to be who receives a copy of the autopsy.

MR FORTUNE: If you look at that, that cannot be right because amongst the optionals would be "post-mortem attendants and medical staff", which is a very general term. It should surely be interpreted as people who might be present as opposed to whom reports should be sent.

THE CHAIRMAN: Well...

MR FORTUNE: It's unhelpful.

THE CHAIRMAN: I don't think the report's going to turn on it, Mr Fortune.

MS ANYADIKE-DANES: What was your practice?

A. In 1995?

Q. Yes.

A. I would normally record who was present. I wouldn't record the name of the mortuary technician. I would not do that because the mortuary technician's there.

However, sometimes it can be difficult to say who's at the autopsy because you could start the autopsy and a clinician comes down in the middle of the autopsy, you're gloved up, you're doing the autopsy and yes, he or she's been down and the name's not on the report. So that could happen, but normally I would say who was at the autopsy, but they'd have to be there at the time I start. I do have it frequently in the job I do now that someone arrives in the middle and leaves before the end and the name's not there.

Q. If somebody were attending the autopsy, is there a sort of viewing gallery or are they literally in the room where you're carrying out the autopsy?

A. In 1995, in the Royal, they would have been in the room, so they would have to get gowned up, have a gown on, overshoes. They would be in the mortuary.

Q. So if Professor Savage is attending the post-mortem, he's attending it gowned up and in the room?

A. In the room, yes.

Q. If that were the case, your usual practice, although you said there may be many reasons why you didn't follow it, but your usual practice would be to record that fact?

A. Yes. If he was there right at the start, yes, I would have, yes.

Q. Thank you. So what you were helping us with is what you

had provided to Professor Berry.

A. Yes.

Q. That was being looked at by way of comparison to what may have been provided to Dr Mirakhur.

A. Yes.

Q. So if we go back to what we were looking at, 011-029-151. Those are the reports the clinicians. We have got as far as that. Then the copy of the equipment report.

A. Yes.

Q. I presume, if you're providing these things, it means that you actually have them?

A. Yes.

Q. And you did say that the equipment and its possible role was something that was highlighted to you as something that may be important.

A. Yes.

Q. And in fact, the equipment report is to be found at 011-004-012. We can see the second paragraph, the inspection or the investigation that led to the report, it's not dated, but the investigation is dated as 2 December 1995 --

A. Yes.

Q. -- even though the report isn't. And if one goes to the fourth paragraph, one sees the Siemens monitor, and they

give its model number:

"This monitor is currently out for repair. A new display screen is being fitted and a loan monitor is in use."

The immediately under that, it says:

"The Siemens monitor measures vital signs including ECG, blood pressure, temperature, heart rate and respiration."

So those vital signs are part of you being able, I presume, to detect what was going on --

A. Yes.

Q. -- during the course of the surgery?

A. Yes.

Q. So that would be an important thing to know?

A. Absolutely.

Q. And what you're being told, or what anybody who's reading this is being told, is actually they have not looked at the monitor which would be displaying that?

A. Yes.

Q. Did you understand that at the time? Did anybody draw that to your attention at the time?

A. No, they didn't, no. Again, parts of this are familiar. Yes, they are. But no, nobody drew that to my attention at the time.

Q. Anyway, you had it?

A. Yes, I did.
Q. And it is part of what you provided to Professor Berry?
A. Yes.
Q. So that all goes with this formal letter and you give him a little summary.
A. Yes.
Q. You say you gave a little summary to Dr Mirakhur --
A. Yes.
Q. -- is there any reason why you wouldn't have set it all out formally like that to get her second opinion?
A. Yes, because Professor Berry was formally instructed by Mr Leckey. John Leckey wanted a paediatric pathology opinion and, as far as I can recall, I think it was Dr O'Hara who recommended Professor Berry because he would have been, in 1995, the most eminent paediatric pathologist on the mainland at the time.
Q. You're absolutely right and one can see that at 011-025-126. What precedes that is a discussion between Doctors Leckey, Murnaghan, O'Hara and Bharucha, and then he comes on to this:

"Dr Murnaghan phoned me back from O'Hara's office. I spoke to Dr O'Hara. It was agreed that the equipment should be independently examined. I agreed with the suggestion from Dr O'Hara that an eminent paediatric pathologist, Professor Berry of Bristol, be brought in

to give an expert opinion."

A. Yes.

Q. And you were told that was going to happen?

A. Yes.

Q. Had you wanted to bring in Dr Mirakhur as somebody to do a formal second opinion -- let's say you'd formed that view -- how do you actually go about doing that?

A. I would have said to Mr Leckey, "I think this needs a formal neuropathological opinion".

Q. And is he likely to have acceded to you?

A. Absolutely. He's a very reasonable man, Mr Leckey.

Q. But you did want her view, Dr Mirakhur's view?

A. Yes, but not a formal view. My opinion was, after looking at the slides and all my knowledge of the case, that this was massive cerebral oedema. I couldn't see any ischaemic hypoxic change, but this is really quite a crucial part of my report to be able to say categorically that there is no ischaemic hypoxic change. I can't identify ischaemic hypoxic change but it was to be absolutely sure. And I didn't -- I was not of the opinion it required a formal neuropathological opinion because, in my view, this is not a case for a neuropathologist. This is dilutional hyponatraemia, this is a child dying under general anaesthesia from a complication of fluid management and it has produced

cerebral oedema of which it was obvious and it was obvious histologically.

Q. But why bother to include Dr Mirakhur's name at all in your report?

A. Because she saw the slides, she looked at the slides and she gave me her opinion.

Q. I don't know whether you came into the chamber in sufficient time to hear her evidence about that, but her view was if her name was going to be included in a report, then she would want to (a) know it and she would want to be able to have an opportunity to see whether she wanted anything further done to allow her name to remain there, if I can put it that way.

A. Yes. I was a trainee back in 1995. Not that I can recall this, but I cannot comprehend me going to a consultant and saying, "Please could you look at this, please could I have your opinion", and then to put her name on the report behind her back without making her aware I was going to do this. I would not behave in this manner to a professional colleague.

Q. So your view is that you did tell her you were going to cite her in the report?

A. Yes, I would say something, "Can I use your name in the report?", or, "Can I put your name in the report?". Trainees come to me now and they'll say,"Can I have your

advice on this, this, this?", and I'll say, "Yes, you can put my name in the report if you like", and they'll say," No, I'm all right". But it is discussed whether the name goes in the report.

Q. Did you show her the report?

A. No, I wouldn't have shown her the report, no.

Q. Because if one looks at that part of the report very quickly, it's a very brief part of the report, but if one looks at it, one sees ...

THE CHAIRMAN: Page 39.

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: Witness statement 012/2, page 39.

MS ANYADIKE-DANES: Actually, I think it's 040. The description of the brain.

"There was massive cerebral oedema of the cortex and white matter. No evidence of terminal hypoxia. No evidence of myelinolysis."

And then you refer to the spinal cord:

"No specific pathological features were noted."

And then in brackets you give your reference to the slides being seen to Dr Mirakhur. When you were asked by the inquiry about that, you said that what you had included in your report accorded with what Dr Mirakhur had told you.

A. Yes. She said -- and again, I can't recall, I can't

recall, but she would have said, "Yes, Alison, I agree with you: there's only cerebral oedema, there is no ischaemic hypoxic change".

Q. And the only point that I'm getting at is, if you had agreed with her that you might cite her name, if you like, as recording somebody who's seen the slides, then did you not think you might send her the report or at least seek permission to send her the report so that she could satisfy herself that what you have recorded there actually accords with what she thought was the case?

A. Well, yes, that is a good point, but it would have been for -- I did not do that and it would have been for Mr Leckey to send Dr Mirakhur a copy of the report, but I did not do that.

Q. In retrospect, do you think you might or at least have sought the permission to do it?

A. I'm going to be very careful in the future, yes.

Q. Okay. Can I ask you something just to tie up about others mentioned. You have kindly produced another witness statement for us --

A. Yes.

Q. -- which refers to the people that you had indicated who were your colleagues --

A. Yes.

Q. -- that had seen it. Then you go on to say in this

third witness statement or to confirm it --

A. Yes.

Q. -- if I can take you to -- well, I don't need to formally take you to it. It's 012/3 at page 6. You say that:

"[You] discussed it informally with Dr Derek Carson, with Dr Alan Cromie. Dr John Press may also have been present."

A. Yes.

Q. Then you say that at that time -- and it is not entirely clear what that time was -- that you recollect that:

"... Dr Carson and Dr Cromie considered the potential cause of death might be hypoxia/anoxia."

A. Yes.

Q. If one looks at this note of the coroner, it says there at 011-025-125 that,"Today [which would be 8 December] --

A. Yes.

Q. -- I had a series of calls and today Dr Armour showed slides [et cetera] to Dr O'Hara and Dr Bharucha. Both stated there was clear evidence of hypoxia, anoxia [and so forth]."

I think you said you don't actually recall sending them the slides or showing them the slides.

A. I don't recall, no.

Q. But if we look at the notes that you made while you were carrying out the autopsy -- just give me one moment. It's 012/2 at page 19. There we are. It's a bit difficult to work out. I couldn't actually see it myself easily. There's a line that goes immediately down the centre of the page -- it's easier blown up -- just between "cerebral oedema" and "address", you can see some initials, "HB" --

A. That's Dr Bharucha.

Q. I took the other one to be "O'Hara".

A. That's "DOH", Des O'Hara, yes.

Q. And the other one to be "Berry"?

A. That's right, Professor John Berry.

Q. So you seem to have noted their names. What does that mean, that notation?

A. I can't recall if it's that I'm going to see them, I've seen them or I'm going to get their advice or I have actually done it. But yes, I'm going to speak to these individuals.

Q. That seems to be rather consistent with the coroner's note.

A. Yes.

Q. If, as he records, you told him that you did show slides, and their indication was that there was clear evidence of hypoxia, when it comes to your report on

autopsy, you don't actually find any hypoxia?

A. Absolutely, and there is no evidence whatsoever of anaphylaxis.

Q. I understand that. That wasn't quite the point I was going to ask you. Given that you've shown something to somebody and they've said that there is clear evidence of something, you have formed a different view. Would you, in 1995, have recorded that?

A. I know it says the slides were seen by -- yes, but it could not have been the slides of the brain.

THE CHAIRMAN: Because --

A. They weren't fixed.

MS ANYADIKE-DANES: So what were they seeing slides of?

A. They would have seen slides of the lung, the kidney, the liver.

Q. I'm not sure it says you showed them slides of the brain. The coroner's note simply says that you showed slides, et cetera.

A. Yes.

Q. I don't think he has said that you claimed to have shown them slides of the brain. As the chairman points out, you couldn't have at that stage, as it wasn't fixed.

A. I could not. I could not.

Q. But you showed them slides of something.

A. I did, yes.

Q. And whatever you showed them, they've believed that that was disclosing clear evidence -- not even "I wonder if" or "you might like to think about" --
A. Yes.
Q. -- clear evidence of hypoxia.
A. Yes.
Q. These are both consultants?
A. They are.
Q. Dr O'Hara is a senior consultant --
A. Yes.
Q. -- at the time and, in fact, the only paediatric pathologist that you have mentioned. So he has that clear view?
A. Yes.
Q. And you have a different view and you're entitled to, you're the pathologist.
A. Yes.
Q. But would you not have thought that you had identified that he had that view, but you have a different view?
A. I think this can be explained by -- I have shown them the histological slides of these other organs, these other organs. The histological slides show no significant pathology in them. There's a bit of congestion in the lungs, the kidney's infarcted, there is a bit of clear cell change in the liver, so there's

nothing within the other organs to account for this child's death, which leaves what everyone had been telling me at the time: hypoxia, anoxia.

Q. Okay. With hindsight and maybe as things have developed, would you have included the explanation you've given, lest anybody asked that, but there were others who had a different view? You have recorded somebody had a different view and you have your explanation for why you have your view?

A. In 1995, in a routine coronial autopsy, probably not. If this was a criminal case, definitely. But not in a routine coronial autopsy.

Q. I understand. That's all the information that you give to Professor Berry and you've explained why you did things slightly differently with Dr Mirakhur. Can we go to what information you actually had for carrying out your task? Maybe I can help you with some of it and if you can help us with the rest of it. If we go to 012/2 at page 26, that's the autopsy request form.

A. Yes.

Q. It identifies the consultant, Professor Savage.

A. Yes.

Q. And if we go over the page, which I think is still part of it --

A. Yes, that's correct.

Q. -- 27. There we are. That has been identified as Dr Taylor's signature.
A. Yes.
Q. So this information of the description of the case is coming from Dr Taylor.
A. That's correct.
Q. Apart from the allocation, where Professor Crane says, "Dr Armour, this is one for you", if you like, what do you start off with as the information that you have?
A. Yes. I would have had this, a clinical summary by the main treating clinician involved in the care of the patient. I would also have been provided with -- and it sounds like a full copy of the medical notes in this case because I think I've referred to something like there were ten copies of notes. So I would have had them all and it would have been a massive pile of medical notes.
Q. It sounds like it. If we just pause there, what would you have done with those medical notes, having described it as a massive pile?
A. From reading this -- and I would have been reading the operative note in the main because it's obvious that something has gone wrong during this child's operation. And I would be concentrating my reading of the notes to what happened just before anaesthesia was induced and

what happened during the operation and what happened afterwards. That's what I would be concentrating my reading on. I did hear Dr Squier yesterday say for someone to try to read all the notes at the time prior to the commencement of the autopsy wouldn't be a good use of the time. It would have been taken me a long, long time to read all the notes. He had a multiplicity of operations.

Q. I suppose you might have gone back into the other notes if something drove you to it?

A. Absolutely, yes.

Q. So if I'm getting you right, you'd be really looking at his notes of admission on the 26th, the anaesthetic record?

A. Yes.

Q. And then I think the notes also in paediatric intensive care?

A. Yes.

Q. So that whole period of about two or three days, you'd be looking at that?

A. Yes, and it was very obvious from my initial reading of these notes that this was a complicated case. This wasn't straightforward, it was complicated. Complicated in that the child had a complex fluid management to start off with, before he even -- anaesthesia was even

induced and that he died unexpectedly and really quite rapidly.

Q. Did it, at some stage, become clear to you that there was an issue about the appropriateness -- let's put it that way -- of his fluid management?

A. I can't remember when that became an issue, but it did come after I had excluded ischaemia, hypoxia and the anaesthetic equipment because then I started to think what else could it be. And I wondered about a metabolic cause, I wondered -- I did wonder about fluids. I think I have written in my contemporaneous notes, "query IV fluids". I have put, "query glucose". And there was a couple of other things I've got in the contemporaneous notes.

Q. In order to help you, let's go to that, actually. I don't think they're in appropriate order --

A. They absolutely are not.

THE CHAIRMAN: Let's just be careful about how much of the detail we need to go into on this, okay? I don't think we need to go through all the detail of it because I think the witness is making it clear at what point the appropriateness of fluid management became an issue for her.

MS ANYADIKE-DANES: Yes, that's what I'm hoping to help by taking her to her notes so she can help identify at what

point that was.

THE CHAIRMAN: She said when it was.

MS ANYADIKE-DANES: Sorry? I misunderstood you then.
I thought you said you weren't sure when that happened.

A. But I am -- that's absolutely right, but it came after the ischaemia, hypoxia, anaesthetic equipment had been checked, after that. I'd been reassured that there's nothing wrong the anaesthetic equipment, it's not ischaemia hypoxia, and then I started to think there's something else, and that's when I start: is it metabolic, is it the IV fluids, is it glucose? And I can't remember the other couple of things on the contemporaneous note.

Q. That's why I wanted to take you to that, but the investigation of the equipment is 2 December, so if we go to your notes, which start at 012/2, page 19. Those, I think, are the start of your notes.

A. That's correct. So that is written ...

Q. When would you be writing this?

A. Where it says the history, and all above the history, so the demographic details and the few lines of the history that you have there, the first paragraph, that is written when I go into the mortuary. I get the demographic details from the notes and I'm starting -- you can see I'm starting to read the clinical

information and then I realise this is a complex case and I am not going to be able to put an accurate written note here at the time. I'm going to wait until I formulate my report finally, until I get this information accurate.

Q. I understand. It sort of stops midline with "on"?

A. It absolutely does because I realise this is a complicated case and I cannot write the history properly in the mortuary prior to the commencement of the autopsy. I can't do it.

Q. I understand that. Can you help us with this, though, because on the right-hand side there's a sort of "cause of death" and there's an "anatomical summary". Does that mean you wrote those afterwards?

A. Absolutely because I didn't come to dilutional hyponatraemia and impaired cerebral perfusion at the time of the autopsy. I did not. So that's later. Cerebral oedema would have been put on after the autopsy had been completed. That's when that was --

Q. So if we go on, this might be part of a more contemporaneous element of your note, if I can put it that way, to --

A. Yes.

Q. -- the next page. Is this you trying with a checklist to try and work out the things you might be looking at?

A. This is, yes, this is "blocks of brain" because I know the pathology is in the brain, it's cerebral oedema. And these are the blocks of the brain that I should be taking and it's got the blocks of the brain and what -- to show congestion. "Right frontal white matter", to show congestion. "Left cingulate gyrus question mark necrosis", that means is there some degeneration around the left cingulate gyrus. "Left basal ganglia STB", that is a special stain I would have asked for the lab to produce and congestion.

"Right and left hippocampus" and, again, was there a bit of necrosis of the left hippocampus. "Left occipital", that's the lobe right at the back of the brain and that's looking for posterior cerebral artery infarction, and that's because the brain had swollen so much. Sometimes you can get the artery compressed and it blocks the blood supply off to the brain and you can get an area of infarction. And then 8, "cerebellum", and then the last one on the bottom, it says "pons". "LFB", again that's a special stain I would have asked the lab to do and that's looking for demyelination of the pons, central pontine myelinolysis.

Q. So this is your working through, but if we go to the bit where you were starting to exclude possibilities, if I can put it that way, if we go on to 012/2, page 22 --

MR BOYLE: Just before we do that, can we clarify? There's the word "Greenfield". Can we clarify with Dr Armour what Greenfield is there?

A. Greenfield, at the time, it would have been the, shall I say, the best neuropathology textbook available. It's a textbook.

MS ANYADIKE-DANES: Does that mean you're going to have a look at that and check through some things?

A. Yes.

Q. Thank you. So then if we go to page 22, and right down to the bottom -- incidentally, are these notes meant to be necessarily referring to the typed things on the left-hand side or just your running notes, that happens to be the paper --

A. Exactly, it's just running notes.

Q. That's fine. If you go right down to the bottom towards the left, you have "fluids, glucose, metabolic". Is that you with your checklist trying to identify what this might be?

A. Yes, I think that's question mark -- and I know my writing's appalling. I think it's "question mark IV fluids". I know it's all in a bit of a mess. "Question mark glucose" and "question mark metabolic".

Then over on the right side, that looks like "question mark extunated post", and I don't know what

I'm referring to there, but it's about the extubation of Adam Strain, and "question mark bleeding". And that's what I'm thinking about. Above it is:

"Jugular ligation does not increase intracerebral pressure, but does increase cerebral blood flow and metabolism."

And that's a journal, The Journal of Critical Care, where there was an article regarding jugular ligation and cerebral blood flow and pressure.

Q. So at this stage, when you're starting to do your examination and trying to identify what is the cause, we know ultimately --

A. Yes.

Q. Are you having any exchanges with the clinicians at all?

A. Yes, I am. And I know I talked to Dr Bob Taylor on more than one occasion. I cannot recall the subject of the conversation, whether it was on the phone or whether I saw him, but I did speak to Dr Bob Taylor. I am pretty sure -- although I cannot be absolutely sure -- that I talked to Dr John Alexander because I have his actual home phone number down there. I know I talked to him at some time and I can't remember if it was face-to-face or on the phone.

Q. If I may help you with this. What I'm trying to ask you is: when you were speaking to -- well, Dr Alexander

wouldn't have been the clinician. When you were speaking to the clinicians and I think the only actual clinician you remember speaking to is Dr Taylor, to be fair --

A. I do. That's correct.

Q. -- were you agreeing with each other in relation to the fluids or can you not recall?

A. This is again -- I cannot remember when. It was obvious -- at some stage, I'm going more and more to the fluids, to the intravenous fluids and the fluid management of Adam Strain. And it becomes obvious that Dr Taylor does not agree with me. I can't remember when and -- well, then we'll just agree to differ. But yes, I do remember that, but I can't remember when it was.

Q. Did he ever produce in writing to you a sort of reasoned argument for his position?

A. All I can remember is the inquest really, but you're asking me prior to the inquest and, no, I cannot recall receiving anything in writing from Bob Taylor to me, personally or directly. I may have received -- I know Dr Murnaghan did send me --

Q. That's what I was getting at.

A. Dr Murnaghan did send me that, but it didn't come personally from Dr Taylor; George Murnaghan sent it to me.

Q. Can I pull this up. 059 --

MR FORTUNE: Sir, while that's happening -- forgive me in case I've missed something. Looking at the pages that are 3 and 4 at the top of each, which are our pages 012/2 and page 21 and page 22, are these notes written at the time that the post-mortem has been completed? Because what's not clear to me, sir, is whether Dr Armour is talking to Professor Savage about what she's doing during the post-mortem or whether she is instancing conversations with clinicians like Dr Taylor after the event. Perhaps Dr Armour can assist us. It may not matter, but I just want to be clear.

A. I cannot recall speaking to Professor Savage. I cannot recall. That's the first point. I can't recall him at the autopsy, but I accept he was there and I can't recall.

MS ANYADIKE-DANES: Are these notes complete?

A. No, my contemporaneous notes are not complete.

Q. Are you able to identify what's not there?

A. Yes, I can. If you look at my final written report, when you have the history, all that is included in my contemporaneous notes, which have been provided to the inquiry, is that very first paragraph, which is very brief, which is really just giving demographic details about Adam, who he lives with and a very brief past

medical history. If you look at the rest of the history it is very detailed. Well, I know how I worked back then and it is how I work now. When I have detailed information, I can't complete the report until everything's inside my head and then I write it. I write it on a piece of paper because it's the way I work. And then I will dictate it for the secretary because my handwriting is appalling and I don't really think secretaries should have to struggle as much as they do. So that would have been written on a piece of paper. The commentary would also have been written on a piece of paper and dictated.

Q. You mean what appears at 011-010-040? From there on --

A. Commentary --

Q. -- until the next page?

A. Absolutely.

Q. So all that issue dealing with the suture and its effects and cerebral perfusion, all of that would have been the subject of notes somewhere?

A. Yes. And then me dictating it, yes.

Q. And those notes are what you say you don't see in these few pages that have been provided as your notes from the State Pathologist's Department?

A. Yes. They would have been loose sheets of paper, whereas the rest of the contemporaneous notes -- it's an

actual booklet, if you see what I mean. The front page, which is page 1, page 2, page 3, page 4. That's an actual booklet. Well, it's not a booklet -- there's only four pages in it, if you see what I mean. It's joined together even though it appears separately here. But that's joined together. So it'd be pretty hard for that to sort of --

Q. When we had asked you to provide a statement for the inquiry and you had said that you would really need your notes to assist you in this, perhaps some of the more technical issues to do with the cerebral perfusion, for example, that have become of so much interest --

A. Yes.

Q. -- are those some of the notes that are missing and that you have difficulty in recollecting what happened?

A. All I think that is missing is the history bit, the commentary, which is, as you will see it, and I don't know, maybe some organ weights. I don't know.

Q. Okay.

THE CHAIRMAN: After you dictate them, these are the notes from which you dictate, which leads to the typed report?

A. That's correct.

THE CHAIRMAN: After you dictate them, do you necessarily retain them?

A. After I --

THE CHAIRMAN: After you dictate the notes, do you necessarily retain the handwritten ones?

A. Absolutely. It would have been inside this -- I don't want to call it a booklet because it's only four pages, but it would have been inside this, yes.

THE CHAIRMAN: Are they likely to be, if not identical, very, very close to the typed format?

A. Absolutely.

THE CHAIRMAN: So although we don't have them exactly, we have something very, very close to them in the typed format?

A. Yes, you do, Mr Chairman. Yes.

MS ANYADIKE-DANES: If that's the case, it probably doesn't need to trouble us.

In terms of what you did receive from the clinician, 059-052-107. That's a memo from Dr Murnaghan dated 7 February 1996 to you.

A. That's correct.

Q. "Telephoned Dr Taylor, provides permission to share the attached with you ... your personal information, conclusions in this difficult matter."

If one goes over the page to 059-053-108. Let's try that one. There we are.

A. Yes.

Q. Do you recall receiving that? That's dated

2 February 1996 to Mr Murnaghan?
A. This looks familiar, yes.
Q. So in there he's received Dr Sumner's report.
A. Yes.
Q. And he deals with his issues in relation to that --
A. Yes.
Q. -- in those paragraphs. And then he concludes dealing with what appears to be the whole discussion coming down to the fluids --
A. Yes.
Q. -- and so forth.
A. Yes.
Q. Did you provide any information to Dr Sumner?
A. Yes, I did.
Q. What did you provide to Dr Sumner?
A. I think there's a letter, isn't there, from me to Dr Sumner?
Q. We'll check if there is. At the time Dr Sumner produced his report, had you produced your report at that stage?
A. Absolutely not. No, no, no. He's an expert paediatric anaesthetist. No.
MR BOYLE: The reference to the letter is 094-108-312.
MS ANYADIKE-DANES: I beg your pardon, this is also a briefing letter that you sent him: original hospital notes, two reports from the consultant -- the same thing

essentially -- and the equipment check report --

A. Yes.

Q. -- and then a similar summary?

A. Yes.

Q. In Dr Sumner's report, does he not take a view in terms of the ligature?

A. I think he does, doesn't he?

Q. How does he know about that if you haven't produced your report?

A. I don't know. Maybe he had been provided it by someone else. I don't know. But I had not produced my report at this stage.

Q. Did you discuss it with him, your views, before you actually produced your report?

A. That's a good question. But I have no recollection, again, of speaking to Dr Sumner --

THE CHAIRMAN: Well, you did speak to him --

A. "Following our recent telephone conversation." There you go. And I have no recollection.

THE CHAIRMAN: You inevitably therefore will not recall the content of the telephone conversation, but it's clear that you did have some conversation.

That might have just been to ask him if he would do the report or he might have said, "You will tell me more about it"?

A. And I would do. I would do. So it may have been at this time.
Q. So that's how he might have learnt about it?
A. Indeed, yes.
Q. Because he would have no other way of knowing about anything.
A. He wouldn't, you're quite right.
Q. So I think what you were saying was that there came a point where you were reaching a pretty firm view that dilutional hyponatraemia was the issue.
A. Yes.
Q. But Dr Taylor didn't have that view?
A. Yes.
Q. And you received this document via Dr Murnaghan from him?
A. Yes.
Q. And what did you do with that information that he had provided to you?
A. I would have read it and I would have put it in the file with all the other information on this case.
Q. Did you discuss it with Dr Taylor?
A. That's a good question. Um ... I cannot recall. I just can't recall.
Q. You didn't agree with him?
A. I did not agree with him and he knew I did not agree

with him.

Q. Did you respond to Dr Murnaghan, "Thank you very much for that, but I don't agree with it"?

A. I don't know. I think by that stage they knew I didn't agree with it, but there is no formal written record of that.

Q. You write a letter to Professor Crane. It's dated 8 December.

A. Yes.

Q. It's 011-023-123. A very short letter:

"I have been dealing with the case of Adam Strain. I am willing to attend any meeting about this case, including a meeting with clinicians, administrative staff, the coroner and whoever else wants to attend. As I was the pathologist who carried out the autopsy, I feel my opinion on the case is relevant to such a meeting and, as such, the case could be discussed in full."

Why did you send that letter?

A. I cannot recall why I sent the letter.

Q. Well, what sort of thing would have prompted it?

A. I would have been feeling professionally undermined by Professor Crane.

Q. By Professor Crane?

A. Yes.

Q. And what would that mean?
THE CHAIRMAN: What do you mean by "professionally undermined"?
A. I cannot recall this letter at all, but if you would like some background ...
MS ANYADIKE-DANES: Yes.
A. There were personal issues between myself and Professor Crane. The training within the department, in my view, was insufficient. In fact, there was none. I had come from a pathology department in Leeds where there was a proper training programme. When I came to the State Pathologist's Department in Belfast, it was just work. There was no proper training. I had come to receive training so I could carry out homicide autopsies and become a forensic pathologist. I did ask if I could do a homicide autopsy under supervision. When he said no, I said, "Why not?" He said, "It's the policy of this department that no trainee carries out a homicidal autopsy". I said, "Please can you provide me with that policy document?". To which it got -- it just got a bit bad, really.

So I then contacted the BMA and I also formally contacted the Royal College of Pathologists, and as a result of what I said, the Royal College of Pathologists visited the department prior to Adam Strain

and made recommendations as to what was to be put in place.

Q. Sorry, prior to Adam Strain?

A. Yes.

Q. So you'd already had an issue --

A. Yes.

Q. -- which you had taken up in that way?

A. Yes.

Q. And what were those recommendations?

A. I really can't recall. I wasn't privy to them, but they were to be put in place. There would be a proper training programme for trainees in the Belfast department.

Q. Well, between whenever they came and when you left, did that happen?

A. Yes.

Q. A training programme was put in place?

A. Yes, and trainees are properly trained.

Q. Sorry, was that happening before you left?

A. No, it did not.

Q. Sorry, I framed myself badly. I meant between whenever the Royal College of Pathologists came to do their inspection or their review and you left Belfast to start your new post, had any of those recommendations been put into place?

A. No. They came after I left.
THE CHAIRMAN: Okay. That's the background.
A. Yes.
THE CHAIRMAN: Specifically in relation to Adam Strain: in Adam's case, did you feel professionally undermined in some way by Jack Crane?
A. Yes.
THE CHAIRMAN: In what way did you feel you were undermined?
A. I find it difficult because I just can't recall what happened, but obviously something was happening without my knowledge. Again, I am inferring just from the content of my letter that perhaps Professor Crane was trying to arrange a meeting with clinicians or other people involved regarding the death of Adam Strain and I was not going to be there.
MS ANYADIKE-DANES: Do you know why that would be happening?
A. No, I don't.
THE CHAIRMAN: This is potentially significant or perhaps not significant, but when you say that you felt he was trying to arrange a meeting about Adam without you being there, that would, on the face of it, be unacceptable because you were the person who had done the autopsy report.
A. That's correct.
THE CHAIRMAN: Which is why, if there was to be a meeting,

you should be there.
A. That's correct.
THE CHAIRMAN: And because, on the face of it, Professor Crane might be there to make some level of contribution, but should not be there to your exclusion.
A. That's correct.
THE CHAIRMAN: Do you know for sure that he was trying to arrange a meeting?
A. You see this, is where I find it so difficult, Mr Chairman. I know the letter is there and in existence and obviously something has happened and I just cannot recall what I'm inferring from the letter. As far as I'm aware, no meeting did take place without me being there. As far as I'm aware and ... Yes, it was a very difficult time.
MS ANYADIKE-DANES: Irrespective of a meeting with Professor Crane, involving him or not, were there any issues generated by the fact that you had taken a fairly firm and different view to one of the clinicians in Adam's case?
A. Not to my knowledge. Not to my knowledge.
MR BOYLE: Sorry, I wanted to raise the time of the chronology. One needs to be clear in relation to this. Because, of course, this letter is dated 8 December, which was only about ten days after Adam had died, and I

query whether it was being written at a time within Dr Armour's knowledge as to whether by then she was already in conflict or had a different opinion to someone else.

A. Again, I can't remember what opinion I had on 8 December, but that is quite early on, really, isn't it?

THE CHAIRMAN: Yes.

A. And whether I had formed the view that it's definitely the fluids or it's looking like the fluids on 8 December. I really don't think I was there on 8 December, but I can't be absolutely sure. Disagreement between colleagues is not unusual. It's not --

MS ANYADIKE-DANES: It's positively healthy sometimes.

A. Absolutely, absolutely. And at no time did I feel -- in the whole of the time I spent on the Adam Strain case, at no time did I feel that anybody was pressurising me or trying to have undue influence on my opinion from anywhere. That means the clinicians involved in the case, Dr Taylor himself. Because he knew eventually I disagreed with him and I was going to say "I disagree with you". From any of my colleagues in the department or any of my histopathology colleagues, there was no pressure on me whatsoever in the opinion

that I came to. I had complete independence of thought and I was not pressurised in any way.

Q. Okay. Over the break -- I remember it now -- somebody asked me to take up a point with you. If we deal with it now so we address it. You had all the medical notes and records --

A. I did.

Q. The ones that you were focusing on were the ones related to his last admission, if I can put it that way.

A. Yes.

Q. In those medical notes and records, Dr O'Connor, I think it is, describes Adam's appearance as "puffy".

A. Yes.

Q. In fact, that's something that Professor Berry picks up in his report. He describes him as "puffy".

A. Yes.

Q. When you deal with Adam's physical appearance, if I can put it that way, in your report on autopsy, you don't refer to how he looks.

A. No.

Q. Is there a reason for that?

A. I thought he just looked well-nourished. I didn't see any pitting oedema, which is if you press on the skin, the skin remains depressed. I didn't see any, what I would call significant oedema of the tissues, the

subcutaneous tissues, I didn't see it. I thought he was well-nourished, that was my view.

Q. What did you make of the record in his medical notes and records that described him as "puffy", because puffy is different from being well fed?

A. It is. Again, puffy, that's -- it is open to interpretation. Does it mean his little cheeks were puffy? I don't know. Puffy -- yes, I agree, is open to interpretation. But it does not describe someone who I would say is waterlogged or markedly oedematous.

Q. If you had been concerned about that, that his physical appearance did betray that level of fluid overload, although you can't remember speaking to Professor Savage, he was there and he was the child's consultant.

A. Yes.

Q. You could have raised that with him.

A. Absolutely. When you start an autopsy it is very obvious if the deceased is waterlogged or has a lot of fluid because the fluid oozes from the subcutaneous fat, and it did not. Otherwise, it would have been mentioned.

MR McBRIEN: I don't know whether it would be helpful to have the witness shown the photographs of Adam at this point after the operation, when we believed him to be puffy.

THE CHAIRMAN: Didn't we look at some of the photographs?
MR McBRIEN: We did indeed, sir. It's just in this particular context. It's a matter for you, sir. I just thought it might be relevant and helpful. The before and after photographs. I believe she looked at the after, maybe not the before.
MS ANYADIKE-DANES: I think this witness wouldn't have known the before.
THE CHAIRMAN: That's the problem, Mr McBrien, isn't it? By definition, Dr Armour didn't know Adam before. There's really two reasons for not recording that he was medically puffy as opposed to well nourished. One is that he just didn't look like that to you. Secondly, if when he was cut open, if he had been medically puffy, we'd have had the oozing which you described a few moments ago?
A. That's correct.
THE CHAIRMAN: So there are really two reasons which support each other about why you didn't think he was medically puffy, if I can use that term?
A. That's correct.
MS ANYADIKE-DANES: If you wanted Dr Armour to see it, it's 300-080-155. There.
A. Yes.
Q. Does that, to you, just look well nourished?

A. Yes. I am -- you know -- trying to recall the body of Adam Strain. Yes, I just thought he was well-nourished.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Thank you.

If we can deal with the issue of the kidney --

A. Yes, indeed.

Q. -- which is actually what started this. In your report, you say that:

"The autopsy revealed changes in the kidney in keeping with chronic renal failure and total infarction of the transplanted kidney."

A. Yes.

Q. That's 011-010-041. Professor Lucas looks at that part of your report and his comment is to be found at 209-001-006. His second criticism is:

"The omission of histopathological investigation of why the transplanted kidney had infarcted. Were the renal artery and/or the vein obstructed? This is not an important matter in determining the cause of death, but it is important for the renal transplant programme to know why the transplant procedure itself failed."

In those regulations, one of the things you're invited to address is the issue of anastomoses. Is there any reason why you didn't conduct an investigation as to why the transplanted kidney had infarcted?

A. First of all, in my report it does clearly state that the vascular attachments were intact. So I had ascertained there was nothing wrong with the surgery.
Q. Yes.
A. So the vascular attachments are intact. Histologically, the kidney is infarcted. In other words, it is dead. I capital do anything else with the infarcted tissue to try to find out categorically why it is infarcted, but it was my view at the time that Adam Strain was in extremis. You know, the child was developing cerebral oedema, the kidney was transplanted and the kidney "died", in inverted commas, became infarcted because the child was so poorly or sick or in extremis. That was my view.
Q. I appreciate that's your view. I'm just exploring with you, largely because Professor Lucas has raised it, the investigation that you carried out. Because when Professor Risdon was giving his evidence, and for that matter Professor Berry also, there was an issue as to when the infarction had happened --
A. Yes.
Q. -- and what might have led to it.
A. Yes.
Q. And whether to what extent it was contributed to by some ischaemic damage, which has nothing to do with the

actual process of him dying, if you like --

A. Yes.

Q. -- or it was just a process of him dying and the kidney failed as well. You would have seen from the medical notes and records that it was perfusing less well at the end --

A. Yes.

Q. -- although there may well be an explanation for that.

A. Yes.

Q. So those are things that you could have deduced and concluded from his medical notes and records.

A. Yes.

Q. And I suppose what Professor Lucas is inviting is why didn't you conduct a bit more of an investigation into the kidney.

A. There's nothing more I could have done with the kidney. Histologically, it was infarcted. That was it, completely. There was nothing more I can do. It's just a dead kidney. The most important reason for the kidney being infarcted is to make sure the surgical anastomotic site was intact, which it was.

Q. Can I put it this way: you had an opportunity to conduct investigations to assist, if you like, the renal transplant programme itself. For example, you would be able to know from his medical notes and records roughly

what the ischaemic time was. In other words, when it had been removed from its donor and roughly when it had --

A. Yes.

Q. -- been transplanted into Adam as the recipient.

A. Yes.

Q. And you'd have been able to appreciate that length of time. You may not have known the full significance of it, but you might have asked yourself the question of whether it was possible to detect any ischaemic damage that is associated with that as opposed to the fact that Adam has died.

A. I couldn't do it because the kidney was completely infarcted. I just had a dead kidney. I could do no more with what I had.

Q. Did you think of identifying when that infarction was likely to happen? Because that's another issue that Professor Risdon went into.

A. It's not possible. It's not possible to say when that infarction occurred. The infarction -- it was -- the kidney was dead. You cannot age infarction histologically down a microscope when all you have is infarction. It's not possible. I could do no more with what I had.

Q. Okay. Well, you've seen Professor Risdon's report?

A. Um ...
Q. Maybe you haven't.
A. I cannot recall.
Q. Professor Risdon's report goes on to indicate when he thinks that infarction may have happened. So he has conducted an analysis of the kidney, of the blocks and slides that he had to enable him to form a view of that.
A. It's my view it is not possible to age infarction when you have a completely infarcted kidney on histological assessment.
THE CHAIRMAN: Sorry, just wait a moment. Remind me, Ms Anyadike-Danes. He gives a range of times, doesn't he?
MS ANYADIKE-DANES: He thinks at or about the time of the surgery and then, when he was giving his evidence, he thought it might be just after the surgery.
THE CHAIRMAN: The point is he doesn't say it occurred at 9.52 am or something like that. He gives a range of a number of hours --
A. Yes.
THE CHAIRMAN: -- during which it might have occurred. Do you accept that that can be done?
A. I can't see how you can do it histologically. You may be able to do it clinically, but histologically I don't know how he can say the infarction in the kidney is

between that because I cannot age infarction alone.

MS ANYADIKE-DANES: Let's just pull up the report since you're both pathologists. (Pause).

THE CHAIRMAN: He says in his evidence it's impossible to time events with precision to within a few hours.

A. Yes.

MS ANYADIKE-DANES: Yes, he did say that, Mr Chairman, but this witness is saying something slightly different.

THE CHAIRMAN: She is.

MS ANYADIKE-DANES: And I just would like to have the benefit -- here we are. It's 093-031, I think.

THE CHAIRMAN: He also said, Dr Armour, that it takes 12 hours for something to be recognised histologically; is that right?

A. Well, it depends. If you have -- if the blood supply to an organ, say the kidney, is cut off and completely cut off ...

MS ANYADIKE-DANES: Let me help you on this part where I'm taking you to. If you go to the next page, 082. There we are. Right down at the bottom, you see the transplant kidney?

A. Yes.

Q. "Sections showed complete coagulative necrosis of the graft. Basic renal architecture is recognisable in ghost form. The proximal tubular cells are completely

necrotic [which I think agrees with what you're saying] and like nuclei."

And then if you look at his comments:

"This child survived only 24 hours after the transplant operation. Post-mortem performed the day after death. In my opinion, the changes seen in the transplant kidney are more advanced than would be expected after only 24 hours of non-perfusion. In my opinion, the transplanted kidney must have suffered significant ischaemic damage prior to its insertion for this degree of ischaemic damage to be apparent at post-mortem."

And then he says something that isn't quite right because he didn't know the information from the other recipient. So irrespective of whether he can put it down to a particular hour or two or three hours, he has a mechanism by which he can assess the timing when he thinks that's likely to happen and it's down to the advancement in the damage that he sees. So would you accept that?

A. To be honest, I don't know how he has come to that view based on the histological changes that have been listed there because I would not come to such a view. I don't know how he can say 24 hours, more than 24 hours. I couldn't say such a thing, so yes, I do disagree with

him.

Q. Okay. Are you aware of his work?

A. Absolutely, yes. He's very eminent, yes, absolutely.

Q. I think Professor Berry came to a rather similar view as well; would you accept that?

A. Again, I don't know how someone can age or stage infarction to this degree because it's not just as simple as looking at the histological specimen; it's the rate of infarction, it's the reason why the kidney's infarcted. I would not form this view based on the histological changes that have been described there.

Q. I understand that. The other criticism that Professor Lucas makes is the fact that he thinks that there is -- I think he describes it in 209-001-006, an abundant non-pathological information provided in the autopsy report. You address too much of your -- how can I say -- the reasoning for how you have got to where you have got to as a cause of death. Would you accept that?

A. No. The clinical information that's been provided to me and the history that I provided on my report is how I have come to the conclusion that I have. And if anybody would like to ask me, "On what facts, doctor, have you based your opinion?" they are clearly there in the report. If I'm doing a complicated perioperative

death, I will always include a detailed history, which includes non-pathological information.

Q. Yes, I accept that. I wonder if you could help us with this bit, though, and this may be where Professor Lucas is training his sights, if I can put it that way. If we go to your report at 011-010-041, probably around that paragraph that starts "generalised cerebral oedema".

A. Yes.

Q. Which seems to move a little bit apart from just the factual matters in the style that you have had before and becomes a little bit more discursive. This may be what he means. It's also the part that goes into -- and maybe this is it also:

"Another factor to be considered is the cerebral perfusion."

A. Yes.

Q. You have said what you said about the suture.

A. Yes.

Q. But all of this taken together, if I can put it that way, ends up with a conclusion that, yes, dilutional hyponatraemia caused Adam's cerebral oedema.

A. Yes.

Q. But there were these other factors?

A. Yes.

Q. Now, in retrospect, not even in retrospect, actually

those other factors became quite important for others who looked at your report and used your report in their views as to what they think happened.

A. Yes.

Q. And this is the retrospect bit. In retrospect, would you have approached that whole question of how you deal with the other factor to be considered in the cerebral perfusion -- would you have approached that slightly differently now?

A. No, I wouldn't. It's my view, and it has always been my view, that Adam Strain died of dilutional hyponatraemia, which caused his massive cerebral oedema. However, from my reading of the literature at the time, there was something else in Adam Strain. From my reading of the literature, I am unaware that a child had a fixed brain weight of 1,680. It was massive. I have never seen anything like it, nor have I seen anything like it since in my career.

So it was firmly my view there was some other factor in Adam Strain to cause his brain to be so massively swollen. I did consider lots of other factors and it's my personal opinion, and it still is, that it was the cerebral perfusion -- I know there isn't a suture on the left side, or whatever there was on the left side, and the catheter tip on the right side. This contributed to

the cerebral oedema.

I heard everything that Dr Squier said yesterday and I do agree with what she said. However, Adam Strain was in extremis, he was dying, and it is in that context that I have the view that I do on cerebral perfusion and the ligature and the catheter.

Q. So can I maybe approach it a different way. Even if you're not clear any more as to whether you actually saw a suture --

A. Yes.

Q. -- your feeling is, one, there was something else going on. Secondly, that other thing going on was something to do with the cerebral perfusion?

A. Yes.

Q. Can I take you to a part of the deposition of Dr Sumner? As you know, Dr Sumner provided a report for the coroner and then he gave evidence.

A. He did, yes.

Q. If we go to 011-011-049, this is a typed up version of a manuscript note of his answers.

A. Yes.

Q. That's the way they do it. They don't record the question and answer, they just record the answer. So if you go down to about three-quarters of the way down, he is saying:

"At 123, some oedema of the tissues could be beginning."

The 123, as you may recall, is the result they got of the blood gas machine at 9.32?

A. Yes.

Q. He says:

"We would know of the Arieff paper."

Which you knew also?

A. Yes.

Q. "Hyponatraemia is more difficult to diagnose during anaesthesia. It can mask the signs ..."

And here is the bit:

"I believe that without the venous drainage problem, Adam may have survived, provided the level did not drop below 123."

That's the level of his serum sodium. So Dr Sumner is picking up, it would seem, something that you are saying, which is something else is happening?

A. That is my firm view, something else happened in Adam Strain, yes.

Q. And does that concern that something else was happening account for, contrary to what Professor Lucas would say, the detail of your commentary?

A. Absolutely.

Q. To try and identify what that might be and how it might

have occurred?

A. Absolutely.

Q. You gave evidence also --

A. I did, yes.

Q. -- at the inquest. And, after that, you produced a paper?

A. I did.

Q. Why did you do that?

A. I wanted to highlight the case of dilutional hyponatraemia occurring during anaesthesia in -- because dilutional hyponatraemia is well recognised, but all the cases up until then were post-operative, they were not perioperative, a child undergoing an operation. And it was to highlight the case lest it should happen again. However, I do recognise that the journal that it is published in is a pathology journal and it's not going to be read by clinicians like anaesthetists or ... um, clinicians. But that was my main aim for doing it, to highlight this, to draw people's attention to it, lest it should happen again.

Q. After you had given your evidence and the inquest evidence had been heard, the coroner gives his verdict.

A. He does.

Q. And that verdict reproduces quite faithfully almost the conclusions of Dr Sumner.

A. Yes.
Q. Which refers also to this other element that you're talking about, about the cerebral perfusion and so forth?
A. Yes.
Q. When that had happened, did anybody ask you whether you wanted to be part of sharing the lessons that had been learned from this case?
A. No.
Q. Did you think they might?
A. Um ... Difficult question. Um ...
THE CHAIRMAN: Well, on one view, once you have your autopsy report and once the inquest verdict has come in, the Royal should be able to learn its lessons without bringing you in.
A. Yes.
THE CHAIRMAN: On another view, you might have something to add to it, but in essence they have your view from the autopsy report and from the inquest.
A. Yes, and it was a firm opinion, unshakeable.
THE CHAIRMAN: Your opinion had effectively been confirmed by Dr Sumner.
A. Yes.
THE CHAIRMAN: And had been adopted by the coroner at the inquest.

A. Yes.
THE CHAIRMAN: So you could be brought in --
A. I could, yes.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: Just so that we have it clear, the fact that you published it -- am I right in saying that indicates how important or how significant -- maybe that's a better expression -- you thought it was that Adam had died in this way?
A. Yes, I thought it was significant and it was worthy of publication, yes, and people needed to be aware that this could happen during anaesthesia because it hadn't been documented prior to this -- not documented, published. As far as I'm aware, there was no case report published of a child dying of dilutional hyponatraemia under anaesthesia.
Q. When you publish it -- and we can see. I just want to take you to this part of the paper, which is 012/1 at page 10.
A. Yes.
Q. And after you've got your summary, if you look, before the references, it says:
"I thank Dr Sumner, consultant paediatric anaesthetist, for his expert opinion and Dr Bob Taylor for his helpful comments."

And also you acknowledge the coroner for allowing you to use the case. What are the comments that Dr Taylor provided for you in this article?

A. I cannot recall his exact comments. However, even though we disagreed, myself and Dr Taylor disagreed as to dilutional hyponatraemia, he was always very open, he was always highlighting other issues with regard to Adam Strain. I think he referred to the ADH, the antidiuretic hormone, he referred to glucose. He was very helpful to me, but it was obvious that we disagreed, but he never hid the fact that he disagreed and he was helpful to me in writing this paper.

Q. Did he agree with the article?

A. I never asked him, but I suspect not.

THE CHAIRMAN: It's hard to see how he could have.

A. But he was very helpful, even though we disagreed. He was very helpful.

THE CHAIRMAN: I have to ask you, doctor: did it come across to you that Dr Taylor just genuinely didn't believe that this was dilutional hyponatraemia as opposed to him scouring around desperately to find some explanation which might not reflect on his management of the operation?

A. That was my view. He couldn't come to terms with -- yes, it was dilutional hyponatraemia, yes. I never got

the impression that he was trying to cover anything up, that he was trying to sort of like shake me in my opinion or anything that I said to him. I just thought he just could not believe it, is probably the right word.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Just one point on that. When you said he just could not believe it, just so we're clear on that basis, do you mean he couldn't believe it from almost a scientific, or medical scientific point of view, think that that was possible, that a child like Adam, who was polyuric, could develop dilutional hyponatraemia?

A. Again, I just don't think he could, yes, believe it, come to terms with it, whatever you want to say. Even though I appreciate what you're asking me, the evidence was overwhelming. The evidence was overwhelming, but he still couldn't believe it.

Q. I understand.

THE CHAIRMAN: The ligature point. You said at the start of your evidence this morning, doctor, that you've now considered your position about that.

A. I have, yes.

THE CHAIRMAN: One of the criticisms which was made was that if you thought this was a ligature, it would have been

preferable if you'd photographed it. You've now accepted this may not have been a ligature, it might have been a piece of fibrous tissue. What do you make of the point that, whatever it was, it would have been preferable if you'd photographed it?

A. Well, at the time, Mr Chairman, I thought this was an incidental finding; I did not appreciate the significance of this. What I found at the junction of the left subclavian and left internal jugular answered the question as to why the clinicians could not cannulate those veins at the time of trying to induce anaesthesia. It answered that question. I fully admit I did not appreciate the significance of it at the time. At the time I thought it was an incidental finding. That was it. But of course, as the case moves on and things progress, it wasn't an incidental finding.

MS ANYADIKE-DANES: Can I ask you about that? When you're actually exploring it and observing and recording, I think was the expression I used before, when you're doing that phase and you record what you think is a suture and you note it down, when you reach the point when you're actually writing up your report and you're starting to form your conclusions as to what had happened, is it too late at that stage for you to go back and say, "This thing that I now think might

actually have been quite significant, let me just have a look at it and see how long it might have been there or what it actually is"? Is it too late to do that?

A. Far too late. The body had gone. Far too late.

Q. I understand that. So you wouldn't have appreciated that it would have been a very good thing to have taken a photograph of, had a better exploration of, dated it, because by the time that proved to be significant, that evidence was lost to you; is that the effect of it?

A. Yes, and it explained the clinician's difficulty in cannulating the vein. That's what I thought it was. There's the explanation. There's the explanation.

Q. Although Dr Taylor's explanation for the difficulty was that he was dehydrated --

A. Yes.

Q. But you had a different view?

A. I had a different view, yes.

Q. So that wouldn't have explained it for you?

A. No.

Q. Can I just pull up one point that was mentioned yesterday and you can help us with it. I thought I'd found an explanation for it when you said it in your deposition, but then it's repeated in your PSNI statement. If you give me one second, I'll try and find out where it is. It's Dr Squier's point as to whether

it's going --

A. To or from the brain?

Q. Exactly so. I just can't find your PSNI statement at this moment.

MR BOYLE: 093-022-062.

MS ANYADIKE-DANES: Thank you very much indeed. I think that's over the page, 063, where that's said. There you are. It's just past halfway down:

"The suture impaired the blood flow to the brain."

A. Yes.

Q. You heard Dr Squier's evidence.

A. Yes.

Q. Her view was that if it was where you thought it was, or at least where you have recorded it as being, it wasn't going to be impairing flow to the brain. If it was impairing anything, it would be flow from the brain?

A. Yes, but that has a knock-on effect; it will impair the blood flow to the brain. So I think it would have been better if I had said the blood flow to and from the brain.

MS ANYADIKE-DANES: Mr Chairman, I don't have anything further, but I wonder if I could have two minutes because that might conclude everything.

THE CHAIRMAN: We'll break for a few minutes. It rather looks as if, doctor, we'll be finished completely with

you in a few moments if you wouldn't mind waiting.

Two points. One is if there are any further questions, I'd like them to be sorted out over the next few minutes. Secondly, in light of Dr Squier's evidence yesterday and the start of Dr Armour's evidence this morning, we've been reconsidering whether we need to bring Professor Lucas over tomorrow. It now seems to us to be unnecessary for that to happen. If anybody has any contrary views, would you think about them over the next few minutes and we can make a decision about that? I will sit again at 1.25. Thank you.

(1.16 pm)

(A short break)

(1.35 pm)

THE CHAIRMAN: Okay. Where are we?

MS ANYADIKE-DANES: Two questions, both, I hope, brief. One is: when you were discussing the significance of what you had found in terms of hyponatraemia happening perioperatively --

A. Yes.

Q. -- and you said you had written your paper to alert people to the significance and importance of that --

A. Yes.

Q. -- how well do you think people appreciated in 1995 and even the succeeding years, really, about the possibility

of hyponatraemia happening during an operation?
A. Since I've written the paper?
Q. Yes.
A. In Northern Ireland?
Q. Yes.
A. I've had no contact with Northern Ireland since 1997.
THE CHAIRMAN: Outside Northern Ireland, are you aware of it being an issue in Britain?
A. I am not, no.
MS ANYADIKE-DANES: Before you wrote the paper, do you feel that there was an awareness of the fact that hyponatraemia could happen during the course of an operation?
A. Personally, myself, I was only aware of dilutional hyponatraemia occurring in the post-operative environment in women and -- young women and children. That was my knowledge of dilutional hyponatraemia. I was unaware that it had happened during an operation. That's my --
Q. I understand. Just to follow on from that, I know I only said two questions.
THE CHAIRMAN: Sorry. Were you aware of it from your work as a pathologist or were you aware of it from your medical education?
A. Both, Mr Chairman.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Were you aware of the Arieff paper?

A. Prior to carrying out the autopsy?

Q. Yes.

A. No.

Q. But you became aware of it during the course of it?

A. I did.

Q. What did you think its significance was?

A. It's an eminent paper, yes. If you want to call it a landmark paper, it is an eminent paper.

Q. You had just described the fact that you weren't aware in particular of dilutional hyponatraemia happening during the course of an operation.

A. Yes.

Q. When you saw that paper, did you appreciate the wider significance of that paper?

A. Yes, I did, but I don't think any of the cases in that paper were dilutional hyponatraemia during an operation. I think they were all post-operative, weren't they?

Q. Yes, they were post-operative. I was moving on to that point. You saw it, you hadn't appreciated it before, you saw the paper?

A. Yes.

Q. Were you able to appreciate its general significance?

A. The paper?

Q. Yes.
A. Absolutely, yes.
Q. And that therefore applied to both minor surgery, none -- no surgery at all?
A. Yes. I mean, my knowledge of dilutional hyponatraemia prior to Adam Strain was in the association with minor surgery and the post-operative period. That was how I was aware of dilutional hyponatraemia.
Q. Thank you. Then could I ask you something else, which is a completely different point. That is to do with the fluid overload and the appearance of the body.
A. Yes.
Q. You, I think, had said that Adam's body didn't -- well, you weren't able to distinguish the reason for Adam's appearance and you put it down to that he was perhaps just well nourished?
A. Yes.
Q. And it didn't connote anything significant to you over and above that?
A. Yes.
Q. And even though there is a reference to "puffy" in his medical notes and records, puffy is a description that's not precise?
A. Yes.
Q. And it didn't necessarily exclude the fact that he was

well nourished, in your view, when you looked at it?

A. Yes, in my view.

Q. You also said that when you started the autopsy, so you were starting to perform your autopsy on his tissues, you didn't see any leakage of fluid. Is it possible for a body to have taken on fluid and for it not to -- clinically possible and for it not to produce fluid in the way that you described?

A. Well, maybe a little bit, but not a lot.

Q. But it is possible?

A. Yes, just a little.

MS ANYADIKE-DANES: Thank you.

THE CHAIRMAN: Is that everything?

MS ANYADIKE-DANES: I think it is.

THE CHAIRMAN: No more questions? Mr Boyle, no?

MR BOYLE: No.

THE CHAIRMAN: Doctor, thank you very much indeed for coming over and giving us your evidence. You're now free to leave.

Is there anybody who feels that it is necessary for Professor Lucas to give evidence tomorrow? No? Okay. As with other witnesses who are not being called, that doesn't mean to say the reports are ignored, but in light of the evidence of Dr Squier and Dr Armour, the comparatively mild criticisms that he makes of Dr Armour

will be considered but I don't need to hear him repeat them orally or to hear him probed on them.

That being the case, we will not now sit tomorrow and we will start on Monday morning at 10 o'clock.

A governance opening has been circulated to you. I think it is said to be a draft, but it's only a draft to the extent that there are some more references and annotations to be added to it, not in the sense that it is incomplete in any other way. What we'll do on Monday is -- there may be a short oral opening by Ms Anyadike-Danes, but we will then go straight into the evidence of Dr Gaston, who will be dealt with on Monday.

Thank you very much indeed.

(1.40 pm)

(The hearing adjourned until Monday 18 June at 10.00 am)

I N D E X