Wednesday, 18 April 2012

(10.00 am)

(Delay in proceedings)

(10.12 am)

THE CHAIRMAN: Good morning.

PROFESSOR MAURICE SAVAGE (continued)

Questions from MS ANYADIKE-DANES (continued)

MS ANYADIKE-DANES: Good morning. Professor Savage, I'm going to carry on roughly in chronological order, but there were some issues that I have been asked to clarify with you from yesterday, so I hope you'll forgive me if I go back to some things that you think you have perhaps answered a number of times.

The first one of those I would like to do relates to something that you had said in relation to monitoring. When I was taking you through about the importance of monitoring a child like Adam in the immediate pre-surgical period, going into his surgery and the importance of monitoring and on the ward, his various tests and results and so forth, I think you had said that it was important to monitor a child like Adam very carefully and I think you said that, in any paediatric unit, the nurses are carefully monitoring, for example, how much children are vomiting and if they are passing urine, even if they're not necessarily weighing the

nappies and actually calculating it, but they are nonetheless monitoring it. I just wanted to clarify that I had not misunderstood; is that your position?

A. Yes.

Q. Thank you very much.

Then we are in this stage of still the management of Adam from the time of the offer of the donor kidney to surgery and there are a number of aspects there that people just wanted to make sure that I clarified with you.

First is that in your witness statement. 002/3, page 5 -- can we bring that up? It's the answer to 2(a)(ii). It says in relation to the plan:

"The plan was formulated by myself in consultation with the transplant surgeon on call and the consultant anaesthetist on call."

So that's you with Mr Keane and Dr Taylor. The first is: what exactly was the plan at that stage?

A. I don't know what stage this refers to. I don't have the whole --

Q. Well, let's say the first time you were discussing how the surgery would proceed, how Adam would be prepared for it. So in those discussions on the evening of 26 November that you say you had with them on the telephone.

A. Yes.
Q. It's your reference to a plan being formulated. So all I'm trying to ask is what the plan was.
A. Yes. Well, when I say I wasn't quite sure when you meant, obviously when Adam first was called to the hospital and we decided that we would go ahead with the transplant, if the cross-match was satisfactory, the plan at that stage would have been that he went to theatre as soon as that result was available, which would have been early in the morning of the 27th. So the plan at that time would have been to have him on maintenance fluid and on a short period of peritoneal dialysis. Obviously, that plan then changed subsequently when the time of the transplant was transferred to the following morning. And then the plan was that he would have clear gastrostomy tube feeds overnight until two hours prior to his surgical start time, during which time the plan was, again, he would have maintenance IV fluids at 75 ml per hour. But of course, the venous access was lost --
Q. That's what I was going to ask you. Was there a sort of mini change to that plan when that venous access was lost? I think it was sometime around 1am or so in the early hours of the morning. Was there a bit of revision to that plan?

A. If you remember, he was planned to have 180 ml per hour of gastrostomy feeds and because the IV access had been lost, that was increased to 200 ml per hour.
Q. Were you involved in that revision of the plan?
A. I can't remember, but I seem to recollect that there was a discussion between the anaesthetic registrar and Dr Taylor. But I could have been, I don't remember clearly.
Q. Would you expect to be informed of something like that?
A. Yes.
Q. Thank you.
A. I think if it happened at 1.30, if --
Q. You were still in the hospital at that stage?
A. I was still in the hospital, so I probably would have been involved. It may be that that other phone call was earlier in the morning when it was apparent that there would be no access immediately prior to theatre. These things are a bit hazy, obviously, after this time.
Q. I interrupted you. There would have been that mini revision, then the next substantive change was really to accommodate the fact that he's actually -- he was then planned to have his surgery at 6. Ultimately, that was put back for his surgery at 7. Were you involved in any discussion as to his surgery being put back to 7?
A. It's not clear to me after this length of time why 6 or

7 was chosen, but I assume it was to do with the arrangements internally in the theatre as to when the best time to start was. I don't know.

Q. And I think you said yesterday, in fairness, that you don't actually know when that happened.

A. No.

Q. So far as you're concerned, you're still in charge of Adam, if I can put it that way, up until he's actually delivered for his anaesthesia. Did the fact that this went from 6 to 7 -- which I presume you would have been told about at some stage -- did it make any difference to anything you were doing for him?

A. Not really. As I said yesterday, the plan was he would discontinue his gastrostomy feeds two hours prior to surgery, so if it was at 7 o'clock, that would have been at 5 o'clock; if it was 6 o'clock, it would have been 4 o'clock. But it obviously was decided to be 7 --

Q. Before you discontinued it for the 6 o'clock.

A. Yes.

Q. I understand.

Then another point that you had covered, which is to do with who was involved in the decision to accept the kidney when UK Transplant, if I may call them that, contacted you -- because you're the person named on the form -- to say that they had a potential kidney for Adam

and your view was that you thought that -- you discussed that with Mr Keane, the surgeon, and that that was a joint view and that would be your way of doing things, and Mr Keane's view is he wasn't involved at that stage; he was involved later on. But if I can just pick up some points with you.

In fact, Mr Keane's view comes, just so we are clear about it, in his witness statement, 006/3. I am not going to go to that because we went to it yesterday. What I wanted to ask you is: leaving aside what Mr Keane feels, you are quite clear in your mind that the surgeon had a role at that stage because it was -- and what I'm trying to discover from you is: what are the sorts of things that you felt you needed to find out from UK Transplant so that you could convey that to the surgeon and the surgeon could assist in the decision-making as to whether or not you would accept that kidney?

A. Well --

Q. We know you don't have the form, so what is it that you're trying to find out?

A. I was going to say that you had the form yesterday and the information that's on that form is exactly what they read out to you over the phone.

Q. Okay.

A. As you know, the tissue match, the anatomy of the kidney, when it was obtained and what the nature of the diagnosis of the donor was or the key sorts of information that you're interested in.
Q. If you're going to discuss that with the surgeon, do you not also want to know any sort of anatomical details?
A. Sorry, have I left that out? Yes.
Q. So all that about how many arteries there were or anything like that, you'd be wanting to know that? Not necessarily because it makes any difference to you, but you want to convey that to the surgeon so that the surgeon can make an informed decision with you.
A. Mm-hm.
Q. Isn't that correct?
A. Correct.
Q. So that's what you'd be trying to get?
A. Yes.
Q. And I know it's at some very great remove now, but so far as you're concerned, is that what you did on that evening, sought to get the information that would be on the phone?
A. Yes, that's what my usual practice was. I thought about what Mr Keane has said and it's possible that I accepted the kidney and then spoke to him and, if he had no objection, that went ahead. Obviously, if he had had an

objection I would have gone back and said, "Sorry, we're not taking the kidney". You remember I said yesterday that usually what I did was provisionally accept the kidney, check that we had the facility to carry out the transplant and that everyone involved was happy with that. And then go to the parents and confirm at that point with UK Transplant all systems go.

Q. Yes. Except Mr Keane says he actually wasn't involved in a discussion with you about the kidney until after the tissue match. If that's the case, then the kidney's already in Belfast.

A. Yes.

Q. So --

MR MILLAR: Can I say that Mr Keane does not take any issue at all with what Professor Savage is saying in this particular issue. There was a discussion yesterday about what "not involved" meant in terms of the process. There's no issue about this.

THE CHAIRMAN: So the professor's evidence yesterday was that, in effect, before he takes a provisional booking of the kidney, he then speaks to Mr Keane, he then speaks to the mother and, only after that is done and he's confirmed the theatre and the anaesthetist and so on, only after that is done, do you go back and confirm the kidney is accepted and then it's put on the plane.

A. That's my memory of what happened. It may not be totally accurate, but that would be the type of sequence of events.

THE CHAIRMAN: Does Mr Keane accept now, just to avoid any ambiguity, that before the kidney was put on the plane, he had spoken to Professor Savage and they had discussed whatever necessary detail there was?

MR MILLAR: Yes.

THE CHAIRMAN: Thank you very much, that's helpful.

MS ANYADIKE-DANES: That is helpful. Thank you very much indeed.

A. It's helpful to me as well.

Q. The other slightly revisionist point relates to the X-ray. We had gone through the medical notes and records where you're doing your checklist, if I can call it that, and you're ticking off the things that relate to the protocol.

MR FORTUNE: Sir, I hesitate to rise, but how much revisiting of matters raised yesterday are we to have, bearing in mind the pressure of time and the need to get on with the evidence?

THE CHAIRMAN: Well, I understand, Mr Fortune, that what -- I gather from the last recapping is that she's raising issues which have been raised with her by other counsel overnight; is that correct?

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: If this can be done easily through Ms Anyadike-Danes as inquiry counsel, then it's better for these points to be tidied up now in light of representations which have been made to her to clarify these matters. I understand it's only going to take a few minutes. The slower way to do it, of course, is for a whole lot of consecutive barristers to stand up and cover these points. If it can be done more logically and quickly by Ms Anyadike-Danes, then so it should be done, and that is the purpose of communications between other counsel and inquiry counsel. I accept entirely there's a pressure of time, but this seems to me to be a fairly speedy way to go through things.

MS ANYADIKE-DANES: Thank you very much, Mr Chairman. It is not going to take very long.

Sorry, you had gone through that checklist and you had ticked the X-ray bit and "all X-rays"?

A. Yes.

Q. I think what you were saying is that what you were really doing was you were looking at your protocol and making sure that all those things that the protocol required to have happened were actually done. I had put to you the fact that there's a bit of an issue

in relation to that because DLS seems to have a different view as to whether an X-ray was actually ever taken and, at that stage, I wasn't able to put to you the correspondence that relates to that so that you could see what they had said and you could comment on it. And I know --

A. I know what they have said.

Q. If I just call it up quickly. It's 301-118-650. I think it's the first paragraph, Professor Savage. It says:

"A form to request a pre-treatment chest X-ray was completed by Dr O'Neill on 26 November. It is filed in the patient's record."

No issue about that:

"Its presence in the medical records and the fact that the reverse of the form has not been completed by a radiographer indicates it was not submitted to Radiology and that therefore no X-ray was performed. There is no Kv and mas or radiographer's initials written on the back of the form and, under the Ionising Radiation Regulations, an examination would not have been performed without an appropriately completed request form, which would have been retained by the department. I am instructed that the trust can find no record of Dr Savage requesting a chest X-ray prior to

transplant."

One of the things that you did say is it is sometimes the case that a request is sent and, at some period of remove, one doesn't find the X-ray, and I think you indicated that some X-rays and some other documents in relation to Adam's medical notes and records had popped up considerably after his case. And so I think that is fine. I think the issue is the suggestion is there was something in relation to the completion of the form which somehow indicates that it wouldn't have generated an X-ray. Have you any comment to make on what is being said in that first paragraph to assist?

A. As I keep saying, I hesitate to speculate about these things. But if you take the situation at midnight or 1 in the morning, an SHO fills in a form requesting a chest X-ray, he phones the radiographer, who's on call and possibly doing things in the Accident & Emergency department. She then takes a X-ray or he takes a X-ray, and the correct procedure is laid down here. But this is the middle of the night, so I think the contention from the trust is that because no one signed the back of the form, et cetera, et cetera, it wasn't carried out. I don't know that you can argue that. It could well have been carried out. I don't know. I expected that

it was carried out.

Q. Yes.

A. And my feeling was that it was carried out. But I couldn't prove that. Neither could they prove it was not carried out.

Q. And I wonder if I could put it this way: in your considerable experience at the paediatric renal transplant providing the paediatric renal transplant services, is it sometimes the case that these forms aren't always completely filled?

A. It might be filled in the next day and, of course, the next day was a pretty unusual day.

Q. Yes. Thank you very much indeed.

THE CHAIRMAN: Just before you move from that, the last sentence is that there's no record of you requesting a chest X-ray.

A. It's not true. There is a request form that we have. I didn't request it; it was the SHO.

THE CHAIRMAN: So if Dr O'Neill requested it, that is in effect you requesting it, isn't it?

A. Yes.

THE CHAIRMAN: So it would be ridiculous for Dr O'Neill to request a chest X-ray and for you also to request a chest X-ray because you're duplicating?

A. Yes, you would end up with two.

THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Is it not the case that your SHO requesting it is the equivalent of the consultant requesting it?
A. Yes.
Q. Thank you. Then I wonder if we can move to the issue of cold ischaemic time. We looked at the transplant form, which showed when the time would have started to run, if I can put it that way, Professor Savage. Do you happen to know why it took from 1.42 in the morning of 26 November until whenever it was in the early evening, I think you thought it was, that you were being contacted? Do you know what caused that delay?
A. I don't know. I had suggested that the UK Transplant Service could tell you that.
Q. Well, okay.
A. I suspect it had gone to another centre. There was an unsatisfactory cross-match and it was then offered to us.
Q. Thank you.
A. That would be the normal reason for that length of delay.
Q. Thank you. Something I wonder if we might tidy up: can we look at your PSNI statement of 093-006-016? (Pause).
Let's try again with an alternative reference. One

more time and then I'll just tell you what it says. 093-006-014. Let's try that.

THE CHAIRMAN: That was the one that came up the first time or didn't come up first time. (Pause).

MS ANYADIKE-DANES: Now that you've got that up, could you please try and move it on to 016? Thank you.

I think it's the second last line, Professor Savage. This is you explaining the number of hours after the kidney had been donated.

A. Yes.

Q. It's the second last line where we see it was 16 hours after the kidney had been donated.

A. It's incorrect.

Q. And that's, at that time, what you thought was the cold ischaemic time, I think. And I think you have subsequently said that that's incorrect. Can I ask you to clarify it in this way for us, Professor Savage? Was it incorrect and you were under a misunderstanding when you made the statement or were you under a misunderstanding when you initially received the information from UK Transplant?

A. No, I was under a misunderstanding when I made the statement and I think I said this yesterday as well.

Q. Yes, I'm just clarifying that. In other words, when you received the information from UK Transplant you were

aware of the correct, at that time, cold ischaemic time?
A. Yes.
Q. Thank you very much. Then I think you had gone on to say in a statement that the optimal time to commence the surgery is normally as soon as possible and within 24 hours if you can. And that would have meant, bearing in mind the tissue match, some time around 1, 1.42 or so on the 27th and I think you said that the decision not to do it then was really an operational decision by the anaesthetists and the surgeons because of them -- in ease of them, really, because they're going to have to be carrying it out. Can I ask: if when you were providing the information to them that you had, from UK Transplant, and you would have provided them the ischaemic time as it was at that stage, was there any discussion between you and the surgeon and latterly, I think, when you would have been contacting Dr Taylor, you and Dr Taylor, about the ischaemic time and the effect of that so far as you were concerned?
A. Yes, I think that I deferred to their decision to wait until the following morning, although we all knew that in terms of cold ischaemic time alone, 1 o'clock or 2 o'clock in the morning would have been preferable, but they thought from the point of view of safety of the patient and success of the transplant that to start

fresh in the morning was better. That's my recollection and my recollection is, yes, we did discuss those issues.

Q. Yes. Can I ask then how the arrangements are made? Because what I think you were saying yesterday was that essentially just because of the clinicians that are available to you, you're really seeking to have people who are on call -- apart from the situation of Mr Keane, the actual transplant surgeon, that might be slightly different, there may be a situation where there can't be anybody on call with that particular expertise. But generally, you're looking at people who are on call, I think you were saying.

So given that if you're involved in a cadaveric transplant, you have no control over when you'll be told that there is a kidney available, how often was the situation -- I know there hadn't actually been that many at the time of Adam's surgery, but how often was the situation arising that you had to do something in the evening and think about the safety of the patient in terms of the clinicians who were going to perform it? How often did that happen?

A. That would be a common situation with any transplant and it may well be that there were only nine in the Children's Hospital, but of course -- I can't remember

the exact numbers, but probably 30, 40, 50 already in the City Hospital and the same problems would arise and, indeed, with the adult transplants. Kidneys, as you say, appear when they're offered to you and you have no control over that.

Q. I was just wondering -- this may be something that is better dealt with under the governance section of the hearing. But I'm just wondering what thought was given to how you would actually structure the availability of expertise to you, given that that is a situation which you have just said could happen quite often and then, as it happened, you may well have had enough on the cold ischaemic time clock, if you like, for it to be carried out at 7 o'clock without too much danger to the survival of the graft. But it may be that you wouldn't be in that happy situation. So I was wondering if that was something that was actually discussed in terms of how you would provide that service. If you think it's something that you prefer not to deal with from a clinical point of view, then we can take it up under governance, but I wondered that, since we were raising it, if you had some views.

A. I'm sure you will take it up under governance, but the practical situation -- currently and for many years -- is if I were to contact the transplant surgeon and we

knew in advance that it would be 30 hours, we would probably say, no, let's leave it this time. That wasn't the situation that pertained --

Q. No, no, that happened.

A. So it is something that's within our reckoning. I don't know -- of course, the phrase "governance" didn't exist in 1995.

Q. No, and I'm using it as a shorthand term because it's become a bit of a term of art within the inquiry and I recognise it didn't exist then. But the sorts of things that it covers, those activities and considerations, existed, but that's -- I use it, as I say, as a shorthand term.

A. In assessing any of these things, what we try and decide between the key members of the team is what is the best solution for that individual patient.

Q. Of course and, so far as you are concerned, on this particular issue as to timing, I think you've said that the people who had the definitive decision on that are the surgeon and the anaesthetist who are actually going to carry out the procedure.

A. Yes.

Q. There is one other thing in this area just to tie up, it's in your witness statement 002/3, page 22. It's question 20(f). It may just be a use of language but

when asked, you say:

"Had the transplant proceeded on the evening of the 26th as initially agreed ..."

Does that mean you had initially agreed that it would and then, on later reflections, others have thought maybe that's not just a good idea, and if there was that kind of agreement who would have been involved in it?

A. Well, I think the initial arrangement -- I think the evening of the 26th isn't quite right; it was the early morning of the 27th, obviously. But that's splitting hairs a little bit. I think the initial plan was we would get the -- I feel that I'm repeating myself recurrently -- that we would accept, that we would go ahead as soon as we had a satisfactory cross-match.

Q. No, sorry, it's not so much you're repeating yourself; I'm trying to clarify this point that is in your statement, which is: what do you mean by saying:

"Had the transplant proceeded on the evening of the 26th as initially agreed"?

Because that suggests that you and some other had actually agreed that the transplant would occur in some way and that agreement had been reached on the 26th. That is all I'm trying to clarify. It may be just a use of wording and it's no different to what you were saying

yesterday.

A. There is no difference. The plan is we would go ahead with the transplant as soon as we had a satisfactory cross-match, which was likely to be midnight, 1 am, and subsequently it was changed to start early in the morning.

Q. Yes, but to be accurate, as I said, there was never an agreement that the transplant would actually take place on the evening of 26 November.

A. No.

Q. Thank you.

A. The agreement was that it would be when the transplant cross-match came through.

Q. Thank you. I wonder if we might move to the issue of consent now. In your witness statement at 002/3 at page 27, you say that the consent form was probably signed between midnight and 2 am.

Then, in that same witness statement, but a little later on, at page 31 -- sorry, stay at page 27. In fairness, let me pick this up at question 23(b). You say:

"In 1995, it was not uncommon for initial consent to be obtained by someone other than the surgeon carrying out the procedure."

Then you say:

"Generally, the surgeon and anaesthetist would speak with the parents immediately prior to surgery to confirm that they understood the detail."

And that you contrast that with the current procedures. Am I to understand from that, just as a matter of language, it meant that surgeons also did take consent, although sometimes it happened that it wasn't the surgeon who was taking consent? Because you say it wasn't uncommon.

A. No, surgeons sometimes would take the consent themselves.

Q. Then you go on to say that, irrespective of any of that, generally the surgeon and anaesthetist would speak with the parents immediately prior to surgery and confirm that they understood the detail. What exactly is the detail that you had in mind that they would be confirming?

A. Well, I think that my experience is that surgeons would come along shortly prior to the surgery and say, "You've signed consent with Professor Savage or Dr Savage, do you feel you have all the information you need, is there anything else you want to ask me?", and satisfy themselves that the consent was fine. I think that's what happened in those days. Today, we have much more detailed consent forms in keeping with current

governance procedures, which require you to list the potential hazards of any surgery, whether they're common, uncommon, life-threatening, and that was not the case in those days.

Q. We'll then go on to where I was going to take you to, which is page 31 in this same witness statement. Question 29, the answer to that. I think it's four lines down from that.

A. I think that was the right place.

Q. "I would expect the surgeon and the anaesthetist would meet with the parents, examine the child and that the surgeon would confirm that the appropriate instruments were available and, after examination, assure himself that the kidney was suitable for transplant into that child."

But the bit that you had added there which you hadn't addressed earlier is that the surgeon and anaesthetist would meet and they would -- not necessarily together -- the child would be examined. That's your experience, is it? That's what you say.

A. Yes.

Q. If I can take you to --

A. I think certainly the anaesthetist usually comes along and makes sure the child is fit for anaesthesia.

Q. I understand that, but the point that I am at at the

moment is that so far as you are concerned, you've referred to the surgeon -- an examination of the child. Are you saying that that doesn't actually refer to the surgeon doing that, that's a reference to the anaesthetist?

A. He may examine the child, I'm saying that what often happened or what I expect usually happened is that the surgeon and the anaesthetist would come along and confirm that they were perfectly happy with the child's state of health and so on in preparedness for surgery, yes.

Q. Can I then take you to how Mr Keane puts it, which is at witness statement 006/3, page 22. It's in answer to question 40. The third sentence:

"There was nothing to gain by me physically seeing Adam as I was capable of dealing with any surgical issue in transplantation. Everything I needed to know was in Adam's medical notes and I had extensive discussions about Adam with Dr Savage. Finally, no surgical complications occurred."

So what Mr Keane is saying is that he didn't actually see that there was any purpose in him actually seeing Adam and, of course, seeing Adam would give him the opportunity of seeing his mother. But what did you expect would happen? Irrespective of that, what did you

think was going to happen? You had taken the consent, as we say, and then I think shortly after 2 o'clock I think you might have gone home.

A. Yes.

Q. Quite understandably. But what did you think would happen then?

A. 17 years ago ... I mean, what I see happening today is that the surgeon would usually come along and say, "Hello, I'm Mr Keane, I'll be doing the surgery and Professor Savage has told me about your son. He obviously is very well at the minute and are there any questions you want to ask me?"

Whether or not he examines the child would be something for him, but I mean, I don't think it's essential that he sees and examines the child. It's probably good practice for people to know who's operating on them and meet them.

Q. Yes, thank you.

THE CHAIRMAN: Sorry, just to make it clear: that's what you're saying you would expect to happen today?

A. Today, yes.

THE CHAIRMAN: I think the question is really focused on, if you can recall, what you would have expected in 1995. Is what you would have expected then different to what you would expect now?

A. I don't think so, but it's hard to remember.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Thank you very much, Professor Savage.
Mr Keane also thinks, or has expressed the view, that at the time it was the practice that you would take consent, but I think you've expressed the view that sometimes that would happen and sometimes the surgeon would do it; is that correct?
A. Yes. Although generally, I would probably have taken the consent in those days, and I think you have asked Dr Coulthard about this --
Q. Yes.
A. -- and he agrees that that was common practice and normal practice because a paediatric nephrologist who has looked after a child all his life would know that child better and the risks to him of the transplant better or as much as the transplant surgeon, and therefore it was thought, in those days, that that was acceptable. Today, I think it is required that the surgeon performing the procedure takes the consent. So there has been a change in practice.
Q. Yes. But just so that we put what Dr Coulthard has said in context, he puts that in the context of his very firm view that at the outset when the child is put on the transplant register, a transplant surgeon sees the child

then and there is a discussion with the parents, and it's on that basis that he doesn't consider it necessary for the surgeon to be part of the taking of consent because there has already been a discussion about surgical matters, if I can put it that way, with the parents. So yes, he does say that but only in that context. And I'm going to put to you some of the views expressed by Dr Haynes, who has a slightly different view.

He says that it is not appropriate for a nephrologist to take a written consent for a transplant operation. And I think that Messrs Forsythe and Rigg, who are surgeons, are of a similar view, that the surgeon should be involved. So there is a difference there. And they are referring to the practice in 1995, so far as they were concerned.

Now --

A. Can you remind me what Dr Haynes' expertise is?

Q. I'll find his reference for you.

A. He is a consultant ...

Q. Anaesthetist.

A. Anaesthetist, so not a nephrologist or surgeon.

Q. No. But then I have told you the context in which Dr Coulthard made his statement.

A. Yes.

Q. Can I ask about this, though: the purpose of taking the consent, so far as you were concerned, in 1995, was what?
A. The purpose of taking the consent?
Q. Yes.
A. The purpose of taking the consent was to be sure that the individual signing the consent understood the nature of the surgery, the possible risks of the surgery and also to be sure that they were happy for that surgery to proceed.
Q. Are you saying -- well, you have said there is a change between what happened in 1995 and what happens now, and what happens now is that typically a surgeon would be doing that and there may also be an anaesthetist as well now. Are you able to express a view as to why that has changed?
A. It has changed to ensure that there is true informed consent and that it is recorded. I think in 1995, we did believe that we practised informed consent, but we didn't record the detail that is required on modern consent forms. But remember, I would not be taking consent any longer.
Q. No, no, I appreciate that. But leaving aside a form which would enable you to record details that complied with what, nowadays, is considered to be appropriate,

that's a slightly different question. In terms of the person doing it and the person doing it now, as I understood you to say, is typically or almost exclusively the surgeon or the anaesthetist, and what I was asking you is: why is it that nowadays one involves the clinicians who are actually going to be involved in the anaesthesia and performing the procedure? And I think you were helping me with that by saying it is to make sure that it's fully informed; is that right?

A. Yes.

Q. Does that mean that there is a recognition that the nephrologist may not be the best person to communicate the details and potential risks involved in the surgical procedure and/or the anaesthesia?

A. I don't think the people that drew up modern consent forms were thinking of nephrologists.

Q. Sorry --

A. This is a broad base --

Q. Some other person other than those who are going to be directly involved.

A. I think these have been regulations drawn up as best practice.

Q. And the best practice is that those who are actually going to be involved in the procedure --

A. Should sign the consent.
Q. Before we get into the signing of the consent. Should be the people explaining whatever has to be explained so that informed consent can result; is that correct?
A. Yes, and they sign the form as well, of course. I don't think there's any contention on that.
Q. No. Mr Keane has said that he had a conversation with you to -- let's pull it up. Witness statement 006/3, page 21, I think it is. Yes. It's right down at the bottom at (g) there, Professor Savage. I think it goes over the page as well. The question is:

"State whether you believe you fulfilled your duty as a surgeon to warn Mrs Slavin of the risks inherent in the transplant procedure to enable her to make an informed decision as to whether or not to consent to the procedure."

Then he goes on to deal with terms of practice in 1995 and he says that:

"Dr Savage was better equipped than I was to take consent. He knew all the common complications of transplantation and the results of transplantation in children. More importantly, he is an expert in the medical care and management of immunosuppression in children of which I had little knowledge. I played no part in recommending or selecting Adam for the

transplant. Dr Savage did that, and he was ideally placed to take consent for the procedure as he knew Adam, his medical history and his family intimately. Dr Savage was more than competent to explain the common surgical problems to Adam's mother. Further, I asked Dr Savage if Adam's mum wished to speak to me and he confirmed that all had been explained, consent taken and Adam's mum was not looking to speak to me."

So if we flip back again --

A. And finally:

"There were no surgical --

Q. Yes, yes, sorry:

"Finally, there were no surgical complications."

But we're dealing with a stage where he wouldn't have known whether there were any surgical complications because we're talking about the consent and he couldn't have known that when he was making the decision as to whether he was going to go and speak to the mother or not.

In terms of what he says earlier in the start of this answer, when he says that you knew all the common complications of transplantation and the results of transplantation in children, and you had that knowledge of immunosuppression, and then you -- can we pause with that? -- and you were ideally placed to take consent for

the procedure. Do you accept all of that, that he says to you?

A. I think it's probably true, yes.

Q. He then goes on to say that he specifically asked you if Adam's mother wished to speak to him, and you said that that wasn't necessary; do you recall that?

A. I don't recall that, but it's perfectly possible.

Q. If we go to page 22, "Adam's mother wasn't looking to speak to him". Is that because you had offered that to her and she said, no, that's fine, I'm happy with what you've said, or whatever?

A. I don't remember. I don't remember that detail.

Q. Would you have offered that to her?

A. I don't know. Probably. I would have expected that shortly prior to surgery -- he was coming in any case. I think perhaps that discussion was whether he should come in at midnight and talk to her prior to 6 am, but I don't remember that detail.

Q. I understand.

A. And of course, furthermore, I think Patrick Keane and I probably thought there was not a major risk in this surgery to Adam.

Q. Why?

A. Because the risk of a transplant to a child's life was probably only 1 per cent and that would have been the

sort of information that I would have communicated that there was a risk, but it was not a bigger risk for Adam than for other children going for a transplant.

Q. Don't you also discuss the risk or success of the procedure?

A. Yes, and the possibility of rejection.

Q. She certainly recalls you discussing the possibility of rejection, but lets stick with the risks or the success of the procedure. Are you saying that you were as equipped to discuss the risks of success or failure of the procedure as Mr Keane would have been?

A. In general terms, I think so, yes.

Q. And --

A. And I think if you remember, I think Debbie Strain has said that she believes I did go over all these things with her. I think she said that in her statement.

Q. We'll come to what she says in a minute.

A. Because I don't remember exactly what I said to her.

Q. We can certainly turn to what she does say now that you raise her. I'm trying to see if I can collect it all in one happy place, if I can put it that way. I think if we go to 001 and then 2, page 9. It's question 47, I think -- (a) I think it is. Sorry, that's in reference -- can we go back to the full page again? I think in this page she's generally dealing with what

she was told.

THE CHAIRMAN: It might be the previous page.

MS ANYADIKE-DANES: If we go to the immediate previous page, yes. Thank you, Mr Chairman. There we are. Then if one's dealing with the surgical anaesthetic risks of the procedure, she deals with what -- the questions are posed and I think the bits underlined are Adam's mother's answers. So we ask about the age and size she says:

"I was told Adam's size was of benefit to him because of his current state of well-being."

His previous procedures, that she wasn't told anything about those being a feature, if I can put it that way, until the surgery was actually underway when Dr O'Connor came out and told her that his previous procedures were making surgery more complicated. Then in relation to his polyuric condition, she wasn't told anything about that. His propensity for low sodium -- this is all in the context of surgical anaesthetic risk. I'm not suggesting that she is saying that she didn't know that he had a propensity of low sodium. She says she wasn't told anything about that producing a risk.

If we go on down:

"In relation to the donor kidney, please explain if you were told at any time -- and if so, by whom and

when -- about the implications of the following for the success of the transplant kidney."

And then if we start with the first one, which is the fact that it was half-matched and go over the page and I think we'll have the run of her answers there, "No":

"The fact that the kidney was from a 16 year-old and was therefore almost adult sized. No. How long it had been since the kidney was removed from the donor. No. The fact that the kidney had two arteries instead of the usual one [I think that should say]. No. The fact that those arteries were widely separated. No. The implications of each of those factors. No. The likely success of the transplant given the factors above. No."

And then she goes on to say what she was told about the transplant team and about Mr Brown, which we've already heard.

THE CHAIRMAN: Could you also go back for one moment to the previous page because I think question 43 is the introduction? She says:

"What information did you expect to receive before Adam's transplant surgery?"

And her answer is:

"I would have expected to have been told about any important possible complications and risks."

And then the following questions are breaking down particular specific information, which we have now.

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: I think, professor, to be entirely fair to you, this really started at question 43. Is it your position that you did tell her about important possible complications and risks?

A. As you're probably aware, Debbie Strain and I had a very close working relationship.

THE CHAIRMAN: Yes.

A. And of course, I was very close to her son, Adam, as well. So I think when you're talking to parents in these situations, some of them will demand or expect to know every minute detail. I think there are other parents who know you very well and trust you to tell them if there are any major or different risks and they don't want to know the minute details or they don't expect to be told them.

I don't know the exact situation with Debbie then, but I do know that I trusted her care of Adam and she trusted mine. Therefore, the information that I gave her would have been in that --

MS ANYADIKE-DANES: Professor Savage, I can help you with that --

A. -- mutually trusting situation. And when you go on to

ask Debbie very specific questions and she says no, I accept that that is her memory. But I would have told her anything that I thought was a worry to us on that evening.

Q. I can help you with that because you've been good enough to set that out in some of your witness statements. It actually starts with your deposition for the coroner, 011-015-111. What we're looking for is:

"We discussed the operation in detail with his mother the day before."

A. At the bottom of the page.

Q. Thank you very much indeed. Four lines up:

"We discussed the operation in detail with his mother the day before. Also, I discussed it with Dr Taylor."

Which is not relevant for present purposes. Can I ask you who the "we"" is?

A. I suppose "I", it should be.

Q. Because we've had this issue as to who else might have been speaking to her. Okay. If we move on, that's -- because it's at the inquest, it's fairly soon after the events. If we go to your witness statement, 002/2, at page 12. Then I think it's in answer to question 6(b). It's in those bullet points:

"What information you gave her about the surgery,

its risks and the source of those risks and when you provided her with that information and her response."

You say that:

"I alerted Adam's mother to the offer of the kidney when I had received this information. I asked her to bring Adam in ..."

And then going on a little bit:

"I would have informed her that it was an adult kidney which the transplant surgeon planned to use. It is likely I informed her that a paediatric surgeon would also be involved in the surgery who had knowledge of Adam's previous surgery, who would therefore be available instantly during the transplantation procedure. I would have explained that we needed to cross-match several units of blood because of the risk of blood loss during surgery so that this could be replaced if necessary. I would have explained the need for the change in his normal overnight feeds. I do not remember in what detail I discussed the risk to Adam's life. I believe we both understood that there was such a risk and hoped and expected he would come through the procedure successfully."

Then if we go to a subsequent witness statement of yours where you develop that a little bit because you're asked to, witness statement 002/3, page 5. It's

question 2(a)(iv):

"What Adam's mother was told about it prior to his transplant surgery. The exact detail of what Adam's mother was told prior to his transplant surgery is not recorded, but the suitability of the kidney in terms of tissue match, the age of the donor, the process of going to theatre, the potential length of time in theatre, detail of the anaesthetic and analgesia to be provided would have been discussed. Prior to signing the consent form, the likelihood of success of the transplant, the potential risk of such major surgery and the need for intensive care management post-operatively would also have been discussed. It is likely that she was informed of the name of the transplant surgeon and the consultant anaesthetist."

It is really in response to those details as to what you believe that you were telling Adam's mother that we sought her most recent witness statement. So it wasn't simply that we put a whole lot of things to her and said, "What do you think about this?", it's because we were putting to her what you understood that you had conveyed to her and to see what her response to that was, and that is what I have taken you to. Her response was in relation to any number of those things, which I presume you yourself had considered to be important

and noteworthy, otherwise you wouldn't be troubling her with it at a time like that. In her view, she wasn't told those things or at least not all of the things you think you told her. So that really was the reason for raising it with you.

A. I don't think the list that you had up matches the statement in this paragraph, does it?

Q. I think in large part, but we can do a compare and contrast.

A. Can we look at it again?

Q. Yes. Let's go to --

THE CHAIRMAN: 001/2, wasn't it, page 8?

MS ANYADIKE-DANES: There are a number of them. If you go to -- I think where we started was 001/1, page 7, question 43, I think was where we started. No.

THE CHAIRMAN: Go on to the next page, I think. The one that you were at a moment ago with the specific questions was 001/2, pages 8 and page 9.

MS ANYADIKE-DANES: Yes, sorry.

THE CHAIRMAN: I think the professor -- the exchange between you and the professor is whether -- if you go on to question 46 running in from page 8 into page 9. The professor is querying whether each of the specific points which he was asked, which Mrs Slavin was asked, are --

MS ANYADIKE-DANES: I understand that and I will over the break, which I presume we'll have shortly, do a compare and contrast, rather than takes up hearing time now. But I've understood he's raised the point.

A. I should like to look at the next page if you don't mind.

Q. Yes. "The kidney was half-matched", is where it starts. Go to 9:

"No. The fact that the kidney was from a 16 year-old and therefore almost adult-sized."

I think you had said you raised the issue of adult sized with her, "No".

Then the fact that it had two arteries, no. Widely separated, no. Implications of each of those factors, no. The likely session of the transplant given the factors above, no.

A. So I believe I did communicate that this was almost an adult kidney and, of course, I was quite keen to get a kidney from a healthy 16 year-old who had died from a subarachnoid haemorrhage, but I wouldn't have told her that detail.

Q. That's one of the things she says she doesn't recall hearing from you.

A. No, because I probably said it was an adult-sized kidney, which you have pointed out before is virtually

the case in someone who's 16.

Q. Well, it says that:

"The fact that the donor kidney was from a 16 year-old and was therefore almost adult-sized."

And she is saying that she doesn't recall you giving her that information. So whether it's 16 or whether it's adult size, they're both in there and she doesn't recall that. In any event, I think given --

A. Again, the business of how long it had been removed from the donor, obviously I would have discussed that with Debra when we moved from 1 am to 6 am because I would have explained to her that this was a problem in terms of how long we were waiting and she would have been aware of that.

Q. That's one of the things she says she doesn't recall you telling her.

A. I know. And the other thing about the arteries -- that anatomical detail is not usually something that we might discuss with parents in that detail, but I think, in general, I tried to tell her the best information in that circumstance. But to ask her specific questions about arteries and so on, obviously I accept that she would say no.

MR FORTUNE: Sir, can I assist you to this extent because in fact Professor Savage deals with this matter --

MS ANYADIKE-DANES: I was just going to take him to that. It is in his witness statement, 002, page 24, question 20(k) where you deal precisely with that question of whether you think you discussed the arteries on the patch with her.

MR FORTUNE: I was going to suggest witness statement 002/3, pages 5, 6 and 7. And whilst I'm on my feet, to assist my learned friend, so far as Dr Haynes is concerned, the reference is 204-004-160, and his disagreement with Professor Koffman on the issue of consent.

MS ANYADIKE-DANES: Thank you very much indeed. That's very kind of you.

Can we go, just in the exercise of being complete about it, to that statement 002/3, page 24. I think it's question 20(k), and I'm conscious of the time, but I may be able to do this quickly:

"State when you discussed with Adam's mother prior to her providing consent to the transplant the implications of: proceeding with the transplant surgery in all the circumstances, including the cold ischaemic time, the widely separated arteries on one patch, and the other factors that are listed above."

Sorry, perhaps we need to pull up the page to see these other factors, in fairness. Okay, I think that probably helps to say with it there.

There, you say:

"I am not certain that I discussed the possibility of not proceeding with the transplant with Mrs Slavin at that time and I would have probably explained that the surgeon felt that delaying the start time was the wisest course of action."

And then just a little bit above that:

"I did discuss the delay in the transplant surgery with Mrs Slavin, explained to her because it was the surgeons felt it was wiser to start on such a major operation after they had gained some sleep and were fresh to the task. I do not recollect discussing the two arteries on a patch, but may have done so."

She, of course, says she doesn't recollect you doing so.

A. I accept that and I accept it's unlikely that I would have gone into that anatomical detail with her. But there is a statement from Mrs Slavin that I was hoping you would pull up because I don't have the access to the IT that you do, where I believe you do ask her:

"Was she satisfied with the information that I gave her."

Something along those lines. And her reply was:

"Knowing the type of doctor that Dr Savage was, I believe that he did discuss everything in detail with

me."

Q. Yes, and I'm going to find that for you over the break so that we can start after the break with that.

A. Thank you.

THE CHAIRMAN: Can I just ask one point: you've said at least once, professor, that if Debra Slavin says something, you believe it's true or you accept that she's being truthful?

A. I accept, of course, she's being truthful. I haven't met Debbie Slavin in a long time, but I used to know her extremely well and I had complete respect for her and for the care she gave her little boy.

THE CHAIRMAN: My feeling at this stage is that she had a similar relationship with you, she believed, she trusted you and believed you --

A. I think so.

THE CHAIRMAN: But it is of course possible that two people who are being absolutely truthful have slightly different recollections of events.

A. Yes.

THE CHAIRMAN: Particularly if those events are stressful.

A. Very stressful for Debbie Strain. These were the worst days of her life, remember, and I appreciate that.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: I wonder, Mr Chairman, given the time

and the stenographer and the task I'm going to conduct for Professor Savage, if this might be a convenient moment.

THE CHAIRMAN: Okay. We'll start at 11.30.

(11.15 am)

(A short break)

(11.40 am)

MR FORTUNE: Sir, before my learned friend continues, you will recall that Professor Savage was reminded of a statement made by Debra Slavin, and he was looking for the reference. The reference is witness statement 001/1, page 5. The question posed was as follows:

"Describe in as much detail as possible any concerns that you had at the time about amount, quality and/or timing of the information that you were given about Adam's treatment at the Royal over the course of 26 November to 28 --

THE CHAIRMAN: Just pause one moment, Mr Fortune. Can we bring that up, please?

MS ANYADIKE-DANES: I wonder, Mr Chairman -- that's actually almost the last page of the statement. There are some earlier comments that are made by Adam's mother about what she was told, which I was going to take the witness through so you get the sequence of it.

MR FORTUNE: I'm happy to leave it to my learned friend.

THE CHAIRMAN: Starting at what page, Ms Anyadike-Danes?

MS ANYADIKE-DANES: If we could go to witness statement 001/1, page 2. This is the first of Adam's mother's witness statements for the inquiry. She's made two and this was the first of them. If we are there, if you can go, Mr Chairman, to the penultimate paragraph. That's where I wanted to start. It's not the first in time of these things, but it's the first of these statements. She says:

"Dr Savage and Dr O'Connor were very good at keeping me informed of their understanding of the progress of the surgery."

She goes on, but I don't think we need to go on about that. Then if we go to witness statement 001/1, page 3, the next page, and then again the penultimate paragraph, you can see:

"At this stage, Adam was in PICU and, to a large degree, he was back under the care of Dr Savage, with whom I have no concerns at all."

Then if you go to witness statement 001/1, page 6.

MR FORTUNE: Page 4 before you jump ahead.

MS ANYADIKE-DANES: I beg your pardon, page 4.

MR FORTUNE: The second and third paragraphs.

MS ANYADIKE-DANES: Yes:

"Describe the information given to you by the

medical staff at the Royal and please identify those concerned."

And there are a series of occasions when that is being sought. Then she says:

"My memory of this is poor, but knowing the kind of doctor Dr Savage is, I am sure that he talked me through the surgery. I was aware of risks associated with surgery, but I know I was completely unaware of the dangers of fluid mismanagement until after Adam's death. Nothing would have prepared me for the catastrophic events which unfolded during Adam's operation. As outlined above, Dr Savage and Dr O'Connor were very good at keeping me informed of what they understood was happening in theatre."

Then if we go to --

THE CHAIRMAN: If you pause there.

Professor, would it occur to you -- going back to 1995. If you can't answer this, please tell me. Would it have occurred to you to warn Debra Slavin about the dangers of fluid mismanagement?

A. No, I didn't expect there would be any problems with his fluids.

THE CHAIRMAN: Okay, thank you.

Sorry, please continue.

MS ANYADIKE-DANES: Thank you, Mr Chairman. I'm going to

come back to that issue of fluids and potential risks in his surgery. But if we go to witness statement -- the same one, page 6.

MR FORTUNE: Page 5, please.

MS ANYADIKE-DANES: Sorry, I beg your pardon, mine is on both sides. Page 5:

"I did not have any concerns [then this is in capital letters] AT THE TIME about information given to me before, during and after Adam's operation. When confronted with Adam's grave condition, my mind was not occupied with assessing the quality of information I was getting. My focus was simply on what could be done to save Adam. My expectation was that the doctors and nurses were thinking in exactly the same way. Adam had undergone surgery at the Royal many times since he was three months old. It would never have occurred to me that there could be anything sinister going on. It was only when the initial shock had worn off in the months after Adam's death that I started to realise how little I had been told. In retrospect, as soon as I saw Adam after surgery, no one was giving me a proper explanation as to what had happened. Dr Taylor's comment that it was 'a one-in-a-million thing' indicated that he had at least some knowledge of what had happened to Adam, but did not explain it to me."

And then if we go over to page 6, which is under a general heading that one has in these witness statements, "Other points you wish to make".

Second paragraph:

"I feel doctors at the Royal were responsible for Adam's death. But I am still grateful to other doctors, namely Dr Savage and the staff at Musgrave Ward for the expert care and attention that they gave Adam throughout his life. I know they felt a genuine sense of loss following Adam's death."

Then, if we go to witness statement 001/2, at page 10, which I think will be an answer to question 49. The question itself is:

"Please explain, if you had received the information referred to [that's all the information I think that we were looking at before the break], whether any of the following would have made a difference to your giving consent to Adam's transplant and why."

First up is:

"Surgical anaesthetic risks of the procedure and the factors concerning the donor kidney, the identity and experience of the transplant team involved, the factors relating to the surgery itself. If I had been told the full details about the kidney and the team, I would not have consented at that time."

And then the question is:

"Were you given the opportunity not to go ahead with surgery? No."

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Then just because I think --

THE CHAIRMAN: Sorry, Ms Anyadike-Danes, the answer to question 50, "Were you given the opportunity not to go ahead?", and the answer is -- there's "No". That has to be read in the context of Professor Savage saying that you spoke to her on the afternoon of the 26th and then Mrs Slavin signed the consent form some time around midnight and 2 am on the 27th; isn't that right? It depends what we mean by "the opportunity".

MS ANYADIKE-DANES: There are a number of opportunities, I suppose. The first time it's mentioned to you and you're told there's a possibility, I suppose you could say, no, you don't want it. Then there's the time of the consent form and then, I think later on, when the surgeon has a better appreciation -- because at that stage, of course, the surgeon hasn't seen the kidney, so it may be that closer to -- in fact, I think there was a discussion closer to the actual induction of anaesthesia. I suppose at any time prior to actually the surgery --

THE CHAIRMAN: But that can't be interpreted to mean that

Mrs Slavin was not given any opportunity not to go ahead. The question is at a later stage, about 6 am or 7 am perhaps.

MS ANYADIKE-DANES: Well, I think because the question is not formed quite in that way, it's probably better that I actually first put that to Professor Savage and then ask --

THE CHAIRMAN: I don't think you need to because Professor Savage on his evidence already has said that there were at least two opportunities for her not to go ahead with the surgery. The first was the afternoon of the 26th and the second was when Mrs Slavin signed the consent form.

MS ANYADIKE-DANES: What I was actually going to ask him is whether he put to her in terms: look, we don't have to go ahead with this. You might have given her your recommendations as to: this is how I see it and this is what I think, whether it would be in the best interests of Adam, but ultimately it is a matter for you. That's actually the question I'm putting to you. Could you have conveyed to her that whatever your feelings might have been about the advisability of going ahead with it for Adam, nonetheless she had a choice to make and she didn't have to do it?

A. I don't know that I'd put it to her at 6 o'clock in the

morning in those terms. But I think it's important for everyone to understand that if you're a paediatrician and a paediatric nephrologist in the situation that there is an opportunity to transplant a child, that at some level you think to yourself: if this was my child, would I go ahead? I would have gone ahead if it was my child because we were close enough to Adam that he was almost part of us. So I don't know if I ever said to her, "Are you sure you really want to go ahead?" I felt that it was the best --

Q. I understand.

A. -- course for Adam and his best chance, and as you've asked me before, did I anticipate that there would be a problem with his fluids? No. Did I anticipate there would be a problem with the transplant? No. And there was no problem with his transplant. In reality there was no risk to his life from the transplant. So when I'm taking consent, I'm saying there is a risk this kidney may not work, we know from the figures that out of the 44 initial kidney transplants we did, 38 of them worked immediately. So I didn't have a major worry about that.

Was there a risk that it might reject? Yes, and I think we would have talked about that. Was there a risk to Adam's life? I thought that risk was pretty

small. Only the risk of any major surgery. And I think in taking consent, that would have been my mindset.

Q. I understand.

A. In terms of getting into the minutiae of two arteries and so on, you know, there is a question of how much you worry people. Part of my role as a nephrologist is to support families and parents through these difficult times of their life, these worrying times when their child is having major surgery. So you might say that's slightly paternalistic, but that's how I try to support families and did in those days.

Q. I understand. I think you have actually answered the question we started with about the opportunity of going ahead. There's one thing maybe I should point out in that list. It comes at 52(c) and it says -- it probably starts at 52(b):

"If you had been told that Mr Keane was to assist in Adam's surgery, what would you have done? In particular, would you have still given consent to the surgery? If I had known about Mr Keane's relative lack of experience in child transplants, I would have been concerned and may not have given consent."

And then the (c) question:

"Please state whether your answer to the question above would have changed if you had been told that

Mr Keane [so she's pre-empted it really] was the only surgeon available in Belfast on 27 November 1995 who was capable of performing the transplant. I may have decided to wait."

THE CHAIRMAN: Did Mrs Slavin know when she was answering that question that Mr Keane had done a transplant 10 days before?

MS ANYADIKE-DANES: I think at that stage we had the -- I will certainly find the answer to that. But I think we had the information as to what transplants had been done.

THE CHAIRMAN: Sorry, we had the information, but Mr McBrien, Mr Hunter, do you know when your client answered that question? Did she know?

MR McBRIEN: No, Mr Chairman, I believe not.

THE CHAIRMAN: At that time? Okay, thank you.

MS ANYADIKE-DANES: Thank you very much.

I had said that I would put to you some of the inquiry's experts' positions in relation to consent and I don't have to my hand the references for that. I apologise for that. If I may just quickly go through that. You had mentioned Professor Koffman, and it is correct that Professor Koffman in his report for the PSNI of 5 July 2006, he says:

"It appears from the records that consent for the

operation was not performed by the surgeons but probably by the paediatric nephrologist, Dr Savage, and this would be normal accepted practice for the mid-1990s."

The reference for that is 094-007-031, and then he goes on to state:

"It would be important to view the consent form and, if possible, the topics that were discussed with Adam's mother, including the risk of death and serious adverse events from the procedure."

The reference for that is 094-007-031.

I don't think we've got a comment back from him yet as to what he thinks in the light of having seen the consent form. Then you did mention Dr Coulthard and he expressed the view that, in 1995, it was common for the final written consent for a child's kidney transplant to be undertaken by the consultant paediatric nephrologist. The reference for that is 200-007-117. However, as I had put to you, but I didn't have the reference to give you. It's put in the context of:

"A surgeon having been previously involved, explaining that in our local arrangements, the parents will always have met a transplant surgeon in advance of the surgery and will have covered the relevant issues then."

The reference for that is 200-007-117.

And then you asked -- I had given you Dr Haynes and the reference for him is -- Dr Haynes considered it. In fact he called it inappropriate for the written consent for Adam's transplant surgery to have been taken by a nephrologist. As he put it in his report of 2 August 2011:

"This should have been taken by a member of the surgical team. It is generally the case that consent is taken by an individual capable of carrying out a procedure or operation himself or herself."

The reference for that is 202-002-037 and he also goes on to say in his report of October last year that he disagreed with Mr Koffman and claims that the taking of consent by someone other than the surgeon is not now and was not then considered to be good practice. That reference is 204-004-160. And then because you had asked me or to confirm whether Dr Haynes was the anaesthetist and not the surgeon, I did that but I also said the surgeons had expressed a view, and they had, and in their report -- this is Messrs Forsythe and Rigg in their report of June 2011 -- noted that consent was taken by you, who were not capable of carrying out the transplant operation. They express the very firm view that:

"It is the role of the transplant surgeon to gain

consent from a paediatric patient's parents and this was the case in 1995 as well as now."

Their reference for that is 203-002-032.

THE CHAIRMAN: And your position, professor, is that you accept that it is not now the position of the nephrologist to take consent, but at that time you contend that it was reasonable and relatively common?

A. I think it was relatively common. There are various things in those statements that I would pick out. For instance, Dr Coulthard says "the local practice", he doesn't say the national practice. And of course, Mr Koffman is the senior transplant surgeon, I understand, in this country. He has done probably more paediatric transplants than anyone else. So there's a slight difference in what people believe was standard practice in 1995, and I do not think it was probably consistent across the country, and I think what was happening in Belfast was probably similar to what happened in other areas.

And of course, outside nephrology it was often junior doctors who took consent. Those days have changed and moved on.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Yes, and the reasons for that is the concern that the patient wasn't receiving adequate

information to give an informed consent. It wasn't entirely a bureaucratic form filling exercise; it was a real concern that the patients were not being able to give informed consent because whoever was giving them the information may not be sufficiently alive to all the issues to be conveyed to the patient or the patient's family; isn't that correct?

A. That's correct, and when I was a junior doctor it would not even have been common for surgeons to explain what the risks of an operation were. These are long days ago that we're talking about.

THE CHAIRMAN: Is there also an element that what is understood by consent has changed? And now, on the new arrangement, you have to explain all the risks effectively as you said earlier, no matter how small?

A. The original form does say: I give consent for this and the name of the operation was there. The modern forms list the potential risks and hazards and you have to note them down, and it has to be signed by the surgeon undertaking the operation.

THE CHAIRMAN: I don't want to interrupt for more than a moment, but for instance on the new form, if there was a transplant tomorrow, would you put down the risk of fluid mismanagement? Or if you did, would that mean you'd have to put that down in every surgery?

A. You possibly would.

THE CHAIRMAN: Sorry, when you retired last year, did the consent forms refer to fluid mismanagement?

A. They tend to refer to complications of the surgery, not of the fluid and anaesthetics. I think that's the fairest way to put it. But you may need to ask those questions of one of the surgeons that will appear before the inquiry.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Just to pick up one point -- forgive me if I've already referred to this -- slightly off-track as I was addressing some of the other matters. And that is the statement by Mr Keane when he says that:

"Dr Savage would have more knowledge of the risks of paediatric transplantation than I."

We can pick that up. That's in witness statement 006/3 at page 20. It's (c)(ii) towards the bottom. When he was addressing the issue of the risks of the transplant being unsuccessful. So this is not a risk to his life, this is the risk to the transplant itself being successful, which I would put to you is something intimately bound up with the surgical procedure itself. He says, effectively: the risks of the transplant being unsuccessful are standard and Dr Savage would have more knowledge of the risks of paediatric transplantation

than I.

Since he's answering the question of the risks of transplantation being unsuccessful, are you comfortable in agreeing that you would have more knowledge than the transplant surgeon of the risks of the transplant being unsuccessful?

A. It's possible that I would have more experience of the complications of a transplant in a child.

Q. The surgical aspects --

A. Not the surgical aspects.

Q. Sorry, that's the point. The point is the risks of the transplant -- that's the surgery -- being unsuccessful

A. I'm trying to read where it says that in the question.

MR MILLAR: Sir, I think actually it doesn't say that in the question. That's the difficulty. It says, "The risks of paediatric --

THE CHAIRMAN: Is this (ii)?

MS ANYADIKE-DANES: "The risks of the transplant being unsuccessful" is the question:

"State what information you provided to Dr Savage for the purpose of obtaining formal consent from Adam's mother about [three things]"

One is:

"How the transplant surgery was going to be conducted. Two, the risks of the transplant being

unsuccessful. Three, the risk to Adam."

In answer to 2 he says:

"These are standard."

I presume that means the risk of the transplant being unsuccessful:

"And Dr Savage would have more knowledge of the risks of paediatric transplantation than I did."

Would you expect that to be the case? You have referred to Mr Keane as being very experienced, albeit he hadn't conducted an awful lot of paediatric transplants or ones as young as Adam, but certainly yesterday when you were describing him, you said he was very experienced, he had written a section in a book edited by Mary McGeown. Would it surprise you to hear him say that he actually thought you might have more knowledge of the risks of paediatric transplantation?

A. I think there's a danger of reading more into these statements than were meant. If I give you one example, for instance. Children very frequently, following and during transplantation, have trouble with their blood pressure. If my blood pressure is 160 today and it should be 120 --

THE CHAIRMAN: Why?

A. It is not doing me any harm -- just at the minute, anyway -- but if a child's blood pressure was 160,

it would be quite hazardous to it. So from that point of view, I would be more aware of the hazards to a child as opposed to an adult. So there are particular paediatric aspects of the management of children with renal transplants that I would have more experience of than an adult transplant surgeon. But the actual technique of the surgery is something that a surgeon has expertise in.

So I think you need to ask Patrick Keane what he meant by that when the day comes. I think there is a danger that you believe he's saying that I knew more about surgery than he did, which, as you can imagine, is highly unlikely, but I might know more about paediatrics than he did, which is highly likely.

THE CHAIRMAN: He knows more about surgery than you, but you have been involved -- or had you been involved in all the 40-plus paediatric transplantations which had taken place up to November 1995?

A. Yes.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: I wasn't seeking to over analyse it. I think it's a rather surprising answer myself, but anyway, I was simply asking you to express a view. And of course, the context of the whole thing is that the context is this is Mr Keane explaining why he didn't

think it was necessary for him to be either part of the consent-taking process, if I can call it that, or speaking to Adam's mother before surgery. That's the context in which all this is being asked.

A. I accept that, yes.

Q. I think the chairman was trying to tease out the differences between consent then and consent now. I think you were asked whether you were aware of any protocols or guidance for gaining consent. If we go to your witness statement, 002/3, page 11. I think it's going to be an answer to question 4(f). Yes:

"State if you were aware at the time of Adam's transplant surgery of any protocol, guidance or procedure on the gaining of consent generally and specifically in relation to renal transplantation. If so identify it."

And so on. Then you say:

"I am not aware, at the time of Adam's transplant surgery, that there was a protocol or guidance for gaining consent generally or specifically in relation to renal transplantation."

A. I tried to identify a document that I could quote, but I was unable to identify one.

Q. Well, maybe it's unfair to raise it here because it's going to be a governance issue, but I'm simply going to

ask if you were aware of a particular document. Unfortunately, we don't have the people here with ... Were you made aware from the hospital of a letter from the management executive office of the chief executive that was dated 6 October 1995, which is a month before Adam's surgery, which specifically addressed patient consent to examination or treatment and attached to it a guide to consent? And it dealt in particular with taking consent from the parents of paediatric patients. Were you aware of that?

A. I wasn't aware --

MR FORTUNE: He ought to be shown the document before he answers that question.

MS ANYADIKE-DANES: The reason I hesitated is I'm not sure -- it's one of those helpful documents we got from the DLS.

A. I should say I requested this document from the DLS and never received it.

Q. Sorry?

A. I did request sight of this document from the DLS, but was not provided with it. In answer to your question, I would say --

THE CHAIRMAN: Sorry, professor, when did you ask?

A. I can't remember precisely. Around the time that I was trying to answer this question. But I would say that

I had not seen that document to the best of my knowledge in November 1995.

MS ANYADIKE-DANES: Thank you.

A. And of course, the fact that it is dated October doesn't mean that it reached people like me in October.

Q. I understand. That's why it's going to be one of those issues. At this stage, I simply sought to clarify the point as to whether you had received it or not or had not been made aware of it. I think your clear answer is, no, you hadn't and, no, you weren't.

A. No.

Q. Thank you very much.

I would like to move now to the monitoring of Adam perioperatively. So we have dealt with consent and, over this whole evening of the 26th right up until 7 o'clock, really, or just before then, I suspect, when he gets taken to the operating theatre, it's all a period of monitoring and a period in which, really, he's in your care, and also governed by the protocol.

I think you say that in your -- I'm not going to call it up every time you say something, but you say it in your witness statement, 002/3, page 38, that:

"The standard nursing practice was to record Adam's fluid balance, his input and output on fluid balance sheets and that his urine output would therefore have

been measured, if possible, and his weight -- pre and post dialysis -- recorded."

Do you want to see that? I can pull that up.

A. No, I'm happy with that.

Q. And you say you would have checked on Adam's dialysis overnight, but we can't find a dialysis record sheet in the clinical notes. This is one of the things actually I was asked to recap with you. Is the upshot of what you were saying yesterday that the parent -- in this case, of course, it was Debbie Slavin -- maintains the booklet -- and we've seen she's attached that to her second witness statement, with all the records that she makes of his dialysis at home, and that when Adam, or any child who has a parent this that position, comes to the hospital, they bring -- or should bring -- that booklet with them and they add whatever results happen while they're in hospital and then they -- to maintain a continuous record. Is that essentially what you were saying?

A. I think that was what happened, but again --

Q. Sorry, does that mean therefore that the hospital itself did not have its own records of dialysis?

A. We do not have any records of his dialysis that night.

Q. Sorry, that's a slightly different question. Does the hospital itself keep dialysis records of the children or

are those records solely in the records that the parents keep?

A. It's 17 years ago and I don't remember accurately. But my belief is that we kept all the records in the one diary.

Q. The one that was maintained by the family?

A. By Debra, yes.

Q. So if, at any given time, Debra wasn't in the hospital with Adam or in the hospital with her books, there was no way for anybody finding out in the hospital what his dialysis history was, if I can put it that way?

A. No, it was in those books and, as you know from seeing the books that she's kept, they're meticulously kept.

Q. Yes. I think that's a different issue, as I'm sure you're aware.

A. Well, they're the records that I would have depended on when I saw him in outpatients or when he came to see me --

Q. I understand that, but it's still one thing for a parent to be keeping records and another thing for the hospital to have its own independent records for people to check.

A. I agree.

Q. I've been asked to deal with this and you may actually have given an answer and I couldn't remember when I was asked, but did you say that that is not the situation

now? Nowadays, the hospital would have its own records?
A. Nowadays, we keep our own independent records if someone is an inpatient, yes.
Q. And can you recall when that happened, roughly?
A. No. A long time ago.
Q. Okay. Could it have had anything to do with Adam's case?
A. No, I don't think we were particularly concerned with his dialysis record at that time.
Q. No, I mean the fact that -- could Adam's case and the fact that when one goes back to look at records, you recognised that the hospital doesn't self-maintain its own, could that have led to a change in practice? That is what, I suppose, I'm asking.
A. Possible, but I think we just gradually improved our practice anyway so that we did have independent records.
Q. Thank you.
A. And we probably had new and -- a newly trained renal nursing staff, who brought in modern practice that was consistent throughout the country.
Q. Thank you very much.
THE CHAIRMAN: Sorry, this is going a bit off track. When you referred to newly trained renal nursing staff, are you talking soon after?
A. No, as time goes by --

THE CHAIRMAN: Just gradually?
A. Yes. Our nursing staff would change, people would leave, we would have nurses, younger nurses who go on a nursing renal training course and come back with new ideas and with better ideas, and we would adopt them.
THE CHAIRMAN: Okay, thank you.
A. And of course, nowadays there's continuing professional training within nursing and within medicine.
THE CHAIRMAN: Which is more developed than it was 15-plus years ago?
A. Yes.
MS ANYADIKE-DANES: Yes. Can I take you to reference 057-015-021, please? That's the paediatric peritoneal dialysis prescription. Is that a document from paediatric intensive care?
A. I believe so, yes.
Q. That seems to record a number of details as to his dialysis, apart from anything else, the dialysate, the volume cycle, the duration, the number of cycles and then it's signed off. Was there an equivalent form to that at the clinic or otherwise in the Children's Hospital?
A. We did have forms like this obviously, and as you can see, it is our form and it's signed by Dr O'Connor. This is a form we used for acute dialysis. So there are

different forms of dialysis. That form has been filled in like that on that occasion. I don't recollect when we introduced that form, but it was obviously there on the 27th of the 11th, 1995.

Q. Yes. What I'm trying to find out is -- I understand this is for acute dialysis. This seems to be -- or maybe you can help me. Is this something that was filled in while he was in --

A. Intensive care.

Q. So this could be an intensive care form, if I can put it that way?

A. Yes, it's a form used in intensive care where --

Q. What I'm trying to find out is: is there an equivalent of that otherwise than in the hospital? As you will know, as attends his dialysis clinics -- which aren't obviously in intensive care -- there are changes made to his duration cycle. We know that is changed from 10 and 8 and 15 and so forth. So over the time when he was on dialysis from some time in September 1994 to this period of time, his dialysis prescription, if I can call it that, did change?

A. Yes.

Q. What I'm seeking to ask you is whether you had some form, whether it be the clinic or the rest of the Children's Hospital, to record those changes, leaving

aside the actual details of it at any particular cycle that he happened to be in hospital for.

A. If we were changing his dialysis prescription for his home dialysis, we would have arranged that with his mother.

Q. But would there have been a form in which it was recorded?

A. No, there wouldn't have been a form in which it was recorded. We probably would have changed what was written in the dialysis diary, and I should point out that the management of his home dialysis, although it was performed by Debbie Strain, we did have a renal nurse who linked constantly with the parents, did home visits, monitored how their dialysis was done and was available 24 hours a day on call, on the telephone.

Q. I understand that. But I'm --

A. But there was no specific form where we would record: we have changed the dialysis prescription today to this.

Q. Or that it is any given thing?

A. What the prescription actually is?

Q. Yes.

A. Well, we would include that in his clinical notes, I think.

Q. Okay.

A. And I think there are records where we have changed things in his clinical notes.
Q. Yes.
A. But as always in those days, the clinical notes are not quite in the detail that you might keep them today.
Q. I'm sure that's true, although his did run to about 10 files -- I think we have them somewhere and they're going to come in at some stage -- and his did run to some quantity. In fact, here they are, literally (indicating).

They've been brought in because I think some of the clinicians would like to look at the originals to get an appreciation of the volume of material one is talking about when one discusses looking through his notes. There they are in that box but it's nothing I need to take you to at the moment, Professor Savage, unless there's some reason why you want to look at a note in particular.

There are a number of things that are discussed and commented on by the inquiry's experts in relation to monitoring as well as in relation to the actual fluids. What I want to do because I want to be -- you haven't actually had an opportunity to say whether you agree with what they say or what they don't say. That's why I've been putting things to you to give you that

opportunity, since some of it comments on things that are directly related to you.

In this particular area, one of the issues that has arisen is the information that would have been available to Robert Taylor in relation to Adam's urinary sodium and creatinine.

Malcolm Coulthard says that -- sorry, I can tell you where he says that. The reference is 200-020-254. He says that:

"Robert Taylor assumed that the sodium concentration of urine was likely to be as low as it had been when measured in the past [that is when Adam was about 2 years old], rather than since Adam had moved on to develop end-stage renal failure."

And he says it is wrong to use historic sodium concentrations to guide replacement therapy. He, in fact, develops that. He goes on and he says that:

"Adam's kidney function was different back then. He was not on dialysis. It would have been easy to collect a sample on admission. Consequently, Robert Taylor decided it would be best balanced by using Solution No. 18."

And that means with about 31 millimoles of sodium, and he said:

"That the best assumption is that the urine

concentration is likely to be close to 45 per cent saline, which has a concentration of 77 millimoles."

Let me try and take you to some of that paragraph rather than reading it all out. If we go to 200-022-069, if we start there.

MR FORTUNE: Is that a correct reference?

THE CHAIRMAN: We'll see in one moment.

MS ANYADIKE-DANES: 269. There we are. It starts off in the second paragraph:

"His second error [which is Taylor] was to assume that the sodium concentration of the urine was likely to be as low as it had been when measured in the past, rather than since Adam had moved on to develop end-stage kidney failure."

Then:

"As a result, he judged it would be best balanced by using Solution No. 18, which has a sodium concentration of 31 millimoles. I have argued that it would be sensible to measure the urinary sodium routinely in children undergoing transplantation, who still have a native urine output and the responsibility for not doing that has to be shared with Dr Savage. In the absence of that, the best assumption is that the urine concentration is likely to be close to 0.45 per cent saline, or half normal, which has a concentration of

77 millimoles."

And then he goes on:

"A third error was not to measure Adam's urine output. My experience of kidney transplantation is that it has always been routine to catheterise a child's bladder at the beginning of the operation. Apart from providing drainage and monitoring for the urine volume during the operation, these children always have a catheter inserted at some point anyway to drain the urine and decompress a bladder after the operation when the new kidney makes urine. This was an important mistake."

You actually do discuss in the papers whether or not Adam was going to be catheterised at some point. But where this started off with is that the absence of the measurements meant that Robert Taylor was left in a situation where he was making assumptions and that is what's being criticised. He shouldn't have had to make an assumption; he should have had a figure or figures to work from.

Then I think --

THE CHAIRMAN: I think if you stop. Are you putting to Professor Savage what's in the second paragraph?

MS ANYADIKE-DANES: Yes.

THE CHAIRMAN: You see the second paragraph, professor,

where it is suggested that Dr Taylor was wrong, but the responsibility for not doing that has to be shared with you. Do you --

A. I accept that we had not measured his urine sodium since 1993, and if we had measured it closer to the time of his operation or at the time of his admission, that that would have been extremely useful information for Bob Taylor. I think I have said that in later statements.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: I'm not sure that I actually put the relevant passage to you from Dr Coulthard, but thank you very much indeed for that.

A. I would also add that when we revised the transplant protocol that we then added the requirement to measure urinary sodium into that.

Q. That was a revision that you did in 1996?

A. It was a lesson that we learned, yes.

Q. Thank you. There is another issue that's -- can you help with that third error point? Obviously -- well, I presume you're not the person who actually inserts the catheter. But there is a discussion there as to whether his urine output should have been measured. I think you had started that matter yesterday, saying that it could have been if you'd measured the wet and the dry nappies

and compared the weight, you could have got some appreciation of what his urine output was.

I don't think we had moved on to the suggestion as to whether you had expressed a view as to whether he should actually have a catheter inserted, and that would have been a helpful thing for the purposes of his fluid management in theatre. Had you discussed that at all with Dr Taylor?

A. No, I don't think the question of whether he had an urinary catheter placed or not in theatre was part of my responsibility.

Q. I understand. You understand, I'm not suggesting it was; I'm simply asking if you had discussed it with him.

A. I don't think so.

Q. Do you recall if he discussed it with you?

A. No, I don't think so.

Q. Thank you.

A. I would have thought that was for discussion between the anaesthetist and the surgeon rather than with the nephrologist.

Q. Thank you. Another issue that has arisen is to whether anybody conducted any kind of post-dialysis assessment of Adam, and if they did, what that involved. Can you help with that?

A. I've tried to remember exactly what happened on that

morning and at what time I was back in the hospital. But I have no clear recollection of that. I had expected him to go to theatre at 7 o'clock. I think I returned shortly before that. Normally, I would have gone and seen a patient even though there was no need for me to do so because I had prepared everything so that if the plan was followed, he should be safe going to theatre. But I would usually have gone and spoken to the patient and the parents on the way to theatre and, indeed, on some occasions accompanied them to theatre. But I don't think I did that that morning because I have no memory of it. So I suspect that by the time I returned to the hospital, he was already either on his way or in theatre.

I do know that in the anaesthetic note there is a mention that he had a pre-anaesthetic assessment.

Q. Yes, I was going to ask you about that because I wasn't entirely sure what that was.

A. Well, I'm not either. But when I was looking in anticipation of this sort of question, just to see if he was examined before theatre, I did note that that is in the anaesthetic record.

Q. Yes, sorry, we can look at it actually. It's 058-003-004. That's the anaesthetic record itself. Were you aware of any kind of assessment being done?

A. I don't think this is the appropriate record.
Q. I think this may not be the appropriate form, actually, sorry. I'll come back to that.
A. However, it's really a question for the anaesthetic team, not for me.
THE CHAIRMAN: But you don't know what's meant by a reference to a pre-anaesthetic assessment anyway?
A. No.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: It will pop up in due course.

What I was actually trying to get at, though, is whether -- sorry, here we are. Got it now. I beg your pardon. 058-003-007. Right. What I was asking you about is whether you have any knowledge of this as an assessment. There we are. It says:

"Preoperative assessment. ASA classification."

And then there's a range of them and "3" is circled. Do you know what that is?

A. No, I don't, and I can't see it.
Q. Sorry.
A. Oh, yes, yes. I think I referred to that somewhere in one of my statements because I had noticed that it was there. I don't know what that means. I just noted it because it --
Q. Because it's there.

A. Because he had a pre-anaesthetic assessment. I don't know what it means.

Q. Yes. If he was having a preoperative assessment, that's obviously happening necessarily at a time when he's really in your charge. How would that work?

MR FORTUNE: Sir, I hesitate to intervene. These are questions more appropriate to Dr Taylor because it's the responsibility of the anaesthetist to ensure that the patient is fit for anaesthesia, and therefore for surgery. It would be our submission that this is not a procedure over which Professor Savage would have any control or input.

MS ANYADIKE-DANES: I'm very grateful to my learned friend. I didn't actually mean that he would have any control or input. What I'm trying to ascertain is whether he's aware of when that would be happening. He's there in the hospital until 2 am, he arrives slightly before 7, I think he was doing his best to recollect. And what I'm trying to find out, Professor Savage -- and you may simply not remember -- is if something of this nature was happening, when would it happen? Or do you recall any kind of assessment being carried out on Adam?

A. I wasn't there when it was carried out. I think you need to ask Dr Taylor.

Q. Thank you very much indeed.

If I may ask you slightly differently about the urine. Dr Taylor appears to have made the assumption that Adam would pass around 200 ml per hour of dilute urine. We can just see that very quickly. I don't want to do him a disservice. I think it's at witness statement 008/2, page 6.

THE CHAIRMAN: At (d).

MS ANYADIKE-DANES: So:

"Explain how that 'excess' suggested to you and to Dr Montague that Adam capable of tolerating rates of fluid in excess of normal amounts. I meant he could be given in excess of 200 ml because he passed larger volumes of dilute urine."

And I think there is another place where he says -- in fact, it starts at (b) really. We asked the question:

"State how much you calculated that he had received in excess of 200 ml."

So 200 ml is certainly a figure that he has as an assumption for the amount of urine he passed. And I think the other place where he says it is 008/3, page 12.

Then if you look right down at the bottom, Professor Savage, just above 35, it says:

"I did not know what his urine volume was during the

procedure. I knew that he was passing a large volume dilute urine that I estimated to be 200 ml an hour."

What I was going to ask you is: you have said that you had discussions with Dr Taylor and you discussed Adam's condition and his clinical history and that sort of thing. Do you know where the figure of 200 ml per hour of dilute urine comes from?

A. No.

Q. Did you ever tell him that he passed that amount of dilute urine?

A. No.

Q. In fact, let's go to what I undertake to be your view. We can start with 002/3, page 39. I think it's in answer to question 36(a):

"I am unable to identify an accurate measure of Adam's urine output except for the record in the intensive care unit on 27 November when he passed 1,363 ml of urine in a 21-hour period. While it is possible that there was some output from the transplanted kidney, these volumes are nevertheless [and this is the point because that's what happens after surgery] consistent with our estimate of urine output from his native kidney of between 1,200 and 1,500 ml."

Was that your view at the time: that that was roughly the order of his urine output?

A. I think my consistent view was that he had 2,100 volume input each day and his output was therefore of the order of 1,500 ml.
Q. Per day?
A. Per day. And if you remember, that is written in a summary note, just shortly before the transplant note by Dr O'Connor, who had just commenced her consultant post and was engaged in looking at all the children and writing summaries for her information. So it's quite clearly written there that his output was -- I think she has said 1 ml to 200 ml, but my understanding and what I have said and what I believe I communicated to Dr Taylor was that he got 2,100 ml per day and that therefore, based on his insensible loss and so on, his output was 1,500 ml a day. And if you divide that by 24, it certainly doesn't come to anything near 200 ml an hour.
Q. Exactly. I wasn't going to take you through all the statements that you've made where you've addressed it, but just about in every witness statement that you've made for the inquiry you have, and for the record, that's witness statement 002/1, page 2. 002/3, page 15. And so on. I will not go through them all. But they're all much of a muchness. It's an assumption that you make, obviously, because you're taking what is his daily

and then you work it out, what you think it is an hour.
A. It's actually on the page that's on the screen at the minute.
Q. I hoped I had read it out from that page. If I hadn't, I meant to do that. So if in fact he had been passing 200 ml of urine an hour, just very quickly for us, maths not being my strong suit, what would that imply he was taking on board?
A. You'd have to be drinking something like 5.5 litres a day.
Q. And did you tell Robert Taylor what his daily input was?
A. Yes, because when we determined what fluids he would get overnight, we obviously discussed that.
Q. Yes.
A. And if you --
MR UBEROI: [Inaudible] for the record, to point out that Dr Taylor has accepted that the calculation was wrong.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Yes, I understand that and I'm grateful for learned counsel saying that. What I'm trying to explain is how we could have got to the situation that we got to.
THE CHAIRMAN: He accepts that he got it wrong. Professor Savage said it didn't come from him. That takes care of the point.

MS ANYADIKE-DANES: Yes, I think it does.

But if I ask you just one question about it, though: when you discussed -- which I think you concede you did -- the fluid arrangements for Adam's management, did he ever mention to you that he was going to put that in as one of the factors?

A. No.

Q. And can I just ask you, for the record: if he had told you that, what would you have said?

A. I would have said it was too much.

Q. Thank you. I wonder if I can move on, now we've started into that territory, with your discussions with Dr Taylor. You make reference in a number of your witness statements as to the fact that you did have discussions with Dr Taylor. In fact, I think if we go to your witness statement 002/3, page 32, I think that's at least where it starts. That will be in answer to question 30. I think you say you believe that you told Dr Taylor that Adam was polyuric. I think we find that at maybe (a)(i). The question is:

"Describe and explain what you told Dr Taylor or believe that you would have told him if you cannot actually remember what you said in relation to Adam's --

And in this case it's his diagnosis of polyuric failure. And you say:

"I believe I would have told Dr Taylor that, despite the fact that Adam had chronic renal failure and was maintained on dialysis, because of his initial diagnosis of obstructive uropathy, he had a polyuric type of renal failure. And as I've stated in an earlier answer, Adam required to have 2.1 litres of fluid daily."

So there it is:

"So that he could build a calculation of his basic fluid requirements during the transplant surgery."

And then you are asked about what you told him about his previous urological history, and you say:

"I would probably have given a brief summary of the previous urological surgery, including re-implantation of his ureters in infancy, which had required subsequent revision so that one ureter [I think that's the T-shape we were talking about yesterday] cross-drained to the contralateral side so that he would be aware that the transplant surgery might be complicated by the previous bladder operations."

And then the multiple previous anaesthetics and operations, you say:

"I would have reminded Dr Taylor of the multiple previous operations which Adam had had, as he may have wished to review the previous anaesthetic records, although I was probably aware that Dr Taylor had

previously anaesthetised Adam."

And then when you talk about his feeds, so we get a little bit more into the fluids and the:

"... Nutrison that made up his high volumes of 2.1 litres a day was fed through a gastrostomy bag."

You say that was discussed:

"About how much oral feed we could give Adam and when it should be discontinued prior to surgery."

You explain about how it was slow to empty:

"I may have also indicated that the sodium content of Nutrison is similar to that of 1/5 normal saline and that I would emphasise that I don't exactly remember the details."

A. Can I say that that last sentence I think is extremely important? I felt that I was being pushed in this question to say what I believed I would have said or what I thought I would have said. I wasn't entirely sure in answering this if this was an appropriate question because it is in that area of speculation, although I think it's as accurate as I can be. But I would like to just say --

Q. In fairness let me read that sentence out:

"I would emphasise that I do not exactly remember the details of the discussion between myself and Dr Taylor and that these comments are, as you have

requested, what I believe I would have told him."

A. Yes. I think that's important.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I know it is still in that sort of realm of speculation, but is that because you think these were the important things that should have been conveyed to him?

A. Yes, I think so and, for instance, I know that Dr Taylor used fifth normal saline, and if I did say to him, for instance, as I speculate here, that I said to him that Nutrison is similar to fifth normal saline, that may have influenced his decision. And of course, historically, the use of fifth normal saline, which, as you know, was standard practice in those days, was based on the fact that the sodium content was similar to breast milk and that was the historic reason it had been chosen. And Nutrison, being an infant feed or a childhood feed, was also designed in the same way to have a similar sodium content. So I have tried to be as honest as I can in this statement of what I would have been likely to have told him.

Q. I understand and, for that reason, it is actually very helpful because it indicates what you, as his consultant nephrologist, thought were the important things that ought to be conveyed to the anaesthetist going into

his -- him going into his surgery.

Can I just ask you one quick question though: were you aware of the fact that Robert Taylor hadn't anaesthetised a child for a renal transplant as a consultant before?

A. No, I think my understanding was that he had been involved in renal transplant anaesthetics during his training.

Q. I understand. Dr Coulthard deals with what he thinks are the matters that ought to have been raised or discussed with Dr Taylor, and he deals with them at reference 200-007-115. It should start with "case background". That may be the wrong page. We'll get the right page.

But in his report, what he lists are the things that -- well, I don't think he's setting it out necessarily as a comprehensive list, but the sorts of things he believed ought to be believed in that discussion. One is the case background, previous anaesthetic problems, venous access difficulties.

MR FORTUNE: Try 116.

MS ANYADIKE-DANES: Actually, I think it might be 124, but I'm happy to try 116.

MR FORTUNE: It's the heading, "Managing the child's preoperative fluids ".

MS ANYADIKE-DANES: Thank you very much.

He says:

"It is the role of the paediatric nephrologist to deliver the child to the operating theatre in an appropriate condition. One of the ways of doing that is to ensure that they have an adequate quantity of fluid in their body; ideally, a slight excess over normal for the procedure and that the biochemistry concentrations are all safe and appropriate. The latter would include ensuring that the plasma sodium was in or close to the normal range."

Would you have any difference with him over that?

A. No.

Q. And then he goes on to say that how you would actually achieve that would differ from child to child. Anyway, I'll find the precise reference that I'm looking for. It's not entirely there. One of the things he thinks you might have discussed with him is venous access difficulties. Were you aware there might be any venous access difficulties?

A. Well, I mean, overnight there had been two separate attempts to insert a peripheral venous line, and that had failed, and my recollection is that the paediatric anaesthetic registrar had spoken to Dr Taylor about that. So he certainly knew there were difficulties in

terms of peripheral access, although Bob Taylor was immediately able to obtain that in theatre, and that's part of a consultant anaesthetist's skill, of course, that they develop. If we're stuck in difficulty obtaining venous access, it's usually an anaesthetist that will rescue the situation.

I have no clear knowledge of how detailed Dr Taylor's understanding was in regards to central venous access, except that I was aware that he had been involved in an anaesthetic to place a previous central line. And I think that's true.

Q. Adam, of course, had had a number of central lines placed, which you would have been aware of. When you said that you would have been discussing his previous surgical history, would your discussion have condescended to that level of detail?

A. Condescended?

Q. Got down to.

A. It might have done. I don't know. We would often discuss, if there was a problem with venous access, yes, and again, you may need to ask Dr Taylor if he had some particular concern about that, knowing that he had had previous central lines. But of course it's true to say that many of the children that we look after who are chronically ill in the renal unit have had multiple

lines before and, yesterday, we did discuss the idea that perhaps he should have had ultrasound examination of his neck in advance. I accept that that is something that we would do now and is probably a wise precaution.

Q. I think you said that you would do a Doppler scan now.

A. A Doppler scan now.

Q. But in terms of ... Going back then, so far as you can -- and it may just be one of those sort of things that you can't remember --

A. I don't remember that we discussed the detail.

Q. That you discussed central lines?

A. No. I would have discussed, of course, that we needed a central line, a triple-lumen central line. But again I suspect that Dr Taylor would have known that anyway.

Q. Did he discuss with you what he wanted in terms of Adam's fluid balance coming to the operation and what he was proposing to do about his fluid management of Adam during the operation?

MR UBEROI: I simply rise to say I certainly don't object to the question, but it needs to be put always in the context that this witness has already said he doesn't remember the discussion.

THE CHAIRMAN: Let me read back in the question.

MS ANYADIKE-DANES: Can you remember it?

A. The discussion about his fluid balance?

Q. Yes.
A. Well, I certainly did have a discussion about his fluid balance because you'll remember from some of my statements that I said to Dr Taylor that I had a concern that he might be behind in his fluids because in the normal day he got 2.1 litres of fluid and, overnight, he got 1,500 ml of fluid in the normal day. But on the night of his transplant -- because he was going to theatre early and had been getting a different fluid regimen -- that he only had 970 ml overnight and therefore I suggested to Dr Taylor that he might in fact have been in some fluid deficit. I'm aware, of course, that you have asked various experts to assess whether he was in fluid deficit or in positive balance.
Q. Yes.
A. And most of them have said he was in positive fluid balance. That is because, I believe, you have asked them what the fluid balance was between his admission and 7 am.
Q. Yes.
A. When I made that calculation, I have agreed with their calculations to a large extent, except to put the rider in that those calculations are related to the period 10 pm to 7 am, whereas normally we look at children's fluid balance over a 24-hour period.

Q. And if you're doing that, what assumptions are you making as to the starting point for your 24-hour period?
A. We usually count 8 am to 8 am.
Q. That's the period, but what assumptions do you make as to their starting point in terms of fluid balance?
A. I don't follow.
THE CHAIRMAN: Do you assume that there is neither a deficit nor a positive?
A. At the start of the 24 hours? Yes.
MS ANYADIKE-DANES: Why would you do that? Why would you assume that he was necessarily zero at the starting of your 24-hour period?
A. Because that's what we are trying to achieve day-to-day in our patients.
Q. Yes, of course it is what you're trying to achieve, but why would you assume he necessarily was? Do children's fluid balances not vary from day-to-day? At any given day in that eight-hour period he's not going to be exactly the same one day as he is another day?
A. I think they are.
Q. Literally exactly the same?
A. If you bear in mind we were giving Adam Strain 2.1 litres of fluid every day and 1,500 ml overnight, and his weights tended to be fairly steady -- there may have been a slight variation, but not a gross variation.

Just the same as my weight every morning, unless I've been out the night before, is much the same each morning of the week. Is there something else you're trying to --

Q. No, I'm just trying to establish that that's actually what you're saying because obviously it's a thing that we'll put to the expert, but I just want to be absolutely clear that what you're saying is that it is preferable to use the 24-hour period because you can assume at the beginning that he's at zero.

A. Well, I'm not saying it's preferable one way or the other. I'm just trying to explain the conversation --

Q. There's a difference, though, isn't there, that if you do it over 24 hours you get a different result, assuming that he's starting at zero, than if you do it over what you actually know you put into him over that period of his admission to just prior to his surgery, what you put in and what he lost, if you like, and that gives a different result. Depending on which way you do it, you either get a deficit or you get a positive. So it is significant which you decide to use as a way of assessing it?

A. It is, but I don't think you asked any of the experts about the 24-hour period.

Q. No, but we are going to ask them about that and we are

going to ask them about whether that's an appropriate way to calculate his fluid position. Of course we're going to ask --

A. However, I don't have any disagreement with the experts to any extent. The situation is that you communicate to the anaesthetist, who's going to be looking after the patient in theatre, where you feel the fluid balance may be. Then the CVP line, the pulse rate and the blood pressure then gives you a guide as to whether that's correct or false. So if he was 500 ml behind, let's say, you'd expect a slightly lower CVP. If he was 500 ml in positive balance, you would expect it to be slightly higher. That's the reason for using the CVP to monitor where exactly you stand.

Q. I'm going to get to the CVP in a minute. Just picking up on this point that I'm making -- and I appreciate the time and maybe it's not something that one wants to worry about just now. Perhaps if you could go to witness statement 002/5, page 7. This is your fluid balance sheet that was attached to your most recent statement --

A. Yes.

Q. -- for the inquiry. Now, if you look under the second column, which is the time between admission and start of preoperative fasting, so that's really essentially his

time in hospital before his surgery, then the estimated fluid excess is that -- what that column is supposed to do. You've got round about a range of 200 to 400 ml excess.

A. Yes.

Q. And then if you go over the page to 002/5, page 8, there's a little section where you can see:

"Reasons why planned fluid infusion (content or infusion rate) should change due to change in estimated loss."

You say:

"At the time of going to theatre, Adam was in sodium balance and bearing in mind his usual night feed was 1,500 ml, although in positive fluid balance from the time of admission, he may have been in an overall 24-hour deficit of perhaps 300 ml compared to a normal day."

So depending on which way you do it, he's either in a slight positive balance of 200 to 400 or he's in a slight deficit of about 300 ml, so that's the significance of which you choose.

MR FORTUNE: And Professor Savage had flagged that up on page 7 at the end of the first column for the period 22.00 to 05.00.

MS ANYADIKE-DANES: Yes, sorry. I'm not suggesting he

hasn't flagged it up, I'm just suggesting there is a difference in what the result is if you do it one way rather than the other. Obviously there will be an issue as to what is the most appropriate way to do it for the purposes of an anaesthetist calculating where the child is before he starts his fluid regime.

A. If I could just say, the reason I have made these statements and the most recent statement is that I obviously have quite clearly stated that I indicated to Dr Taylor that over the 24-hour period, I felt he was in positive balance. We then had a series of experts from all over the country coming back and saying he was in deficit, and I was merely trying to point out that the estimate I had made was on a 24-hour timescale and theirs was on a 9-hour timescale. That's all I'm saying, nothing else. I'm not trying to draw any conclusion from that, just trying to explain why I had made those statements and calculations.

Q. I'm grateful.

THE CHAIRMAN: To the extent that there is an area of disagreement about whether he was in slight deficit or slightly positive, to what extent do you think that that impacts on what happened later?

A. I don't think it makes any major impact.

THE CHAIRMAN: When, by Dr Taylor's admission, he gave him

too much fluid.

A. No, I don't think it makes any major impact.

MS ANYADIKE-DANES: I was going to move on to something slightly different.

MR UBEROI: Sir, the penultimate answer -- I'm not sure if the terms are getting confused -- about being in positive balance. Perhaps it's something I should speak to Ms Anyadike-Danes about over lunch. Reviewing your penultimate answer there, you have spoken about "communicated to Dr Taylor".

MS ANYADIKE-DANES: Yes, thank you for that. I heard that and I thought that a period of reflection may be [sic] about that and I would come back and maybe address that with you after the break, but I wanted to have a look at the transcript before I did that. So I don't know, Mr Chairman, this might be time.

THE CHAIRMAN: We'll stop now and resume at 2 o'clock.

(1.00 pm)

(The Short Adjournment)

(2.00 pm)

THE CHAIRMAN: Can I outline, just before Ms Anyadike-Danes continues, professor, what we hope the position will be this afternoon. I think you came here hoping that your evidence would be taken on Monday and we've let you down on that. What we're hoping is that by 3.30,

Ms Anyadike-Danes will finish her questioning of you. So if we could break at about 3.30 -- we broke earlier yesterday, at about 3.15, but if we could break at 3.30, have a 15 minute break or so ...

I understand from discussions between counsel that it's agreed that virtually everything you're going to be asked will be asked by Ms Anyadike-Danes, but that there may be some short questioning of you when we resume at 3.45. I think the hope is that the completion of Professor Savage's questioning can be achieved this afternoon. It may mean going a little bit beyond 4.30. Is that the anticipation?

MR FORTUNE: I'm not party to this agreement.

THE CHAIRMAN: I'm not sure it's a -- it's an understanding that's been communicated to me as to what is likely to happen.

MR FORTUNE: All I am concerned about is that Professor Savage is in a state fit to continue his evidence. None of us should underestimate the strain, sir. And speaking as somebody with experience of the General Medical Council, chairmen are very reluctant to press witnesses if they're tired.

THE CHAIRMAN: I can't think that Professor Savage isn't tired and I know what it's like to be in the witness box: it's not a place where you want to be sitting. On

the other hand, if we can, by sitting a few minutes late, finish your evidence today in a way in which you feel able to give it, that might be more of a relief to you than having to come back tomorrow morning for some final questioning.

Let's see if we can work on that basis in the hope that Ms Anyadike-Danes will complete her questioning by 3.30. Okay?

MS ANYADIKE-DANES: I will try to. Very quickly though, in one of the comments you made when I said I think I wanted to check the transcript just before we rose for lunch, you said that -- for those who are looking for it, it starts at line 8:

"If I could just say the reason I have made these statements and the most recent statement is that I obviously had quite clearly stated that I indicated to Dr Taylor that, over the 24-hour period, I felt he [that is Adam] was in positive balance."

I think that might have been a slip.

A. Sorry, say that again. I thought you were going to put it up on the screen.

THE CHAIRMAN: Sorry, you don't have ... Can we put LiveNote on the screen?

MS ANYADIKE-DANES: "I obviously have quite clearly stated that I indicated to Dr Taylor that, over the 24-hour

period, I felt he was in positive balance."

I think some clarification was sought as to whether what you were saying is that you had told Dr Taylor that you thought Adam was in positive balance.

A. No, negative balance.

Q. I thought it was a slip, but because it's on the transcript I thought I'd better check it.

A. I think I needed my blood sugar raised.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Thank you.

MR UBEROI: I'm not sure if there's an issue with Professor Savage's microphone, but it can be difficult at the moment to hear. I just wanted to flag that up.

MS ANYADIKE-DANES: Professor Savage, I think I can move on to some of the things I was going to ask you about urine and all of that sort of thing because I think you've made certain concessions or said what you think would be the case now or what you think might have been preferable to have been done then and so there's really no point in going through all of that because you've already said it. I'm not going to repeat that.

What I do want to try and address is exactly where we are now, which is this issue of the deficit. I'd like to firstly do that by way of asking you when you saw, if you did in fact, a particular document.

I wonder if I could quickly call that up: 058-003-005. This is part of the anaesthetic record showing his fluid balances. It's a little bit sort of chopped off at the top, but it says:

"Estimated blood volume: [I think that is] 1,600 ml. Estimated fluid deficit of 300 ml and a calculated intraoperative maintenance of 200 ml an hour."

What I would ask you is: when do you recollect first seeing that document?

A. The first time I saw that document was obviously when Adam was in intensive care.

Q. What did you make of the calculated intraoperative maintenance at 200 an hour? Or maybe you --

A. I don't think I noticed it. When I was looking at it when Adam returned to intensive care and we realised just -- the critical situation, I think what I was doing was adding up the volumes of fluid and realising that they were quite excessive to my interpretation.

Q. I understand.

A. I don't know that I noticed the 200 ml per hour at all --

Q. Thank you.

A. -- at that point.

Q. And if we stick with the idea of deficit, I wonder if I could take you to witness statement 002/3, page 8.

Then I think it's in answer to question 2(i). Maybe it's little L. Sorry, just give me one moment.

What you're saying --

MR FORTUNE: Do you mean "2 little L"?

MS ANYADIKE-DANES: Sorry, I corrected myself. I also wasn't speaking into the microphone, sorry. Thank you:

"The oral fluid intake and fluid prescription which I discussed on the night before surgery with the consultant anaesthetist was affected by the fact that the IV access was lost during the course of the night in question. As a result, Adam got some 500 ml less fluid than was originally planned and his total fluids overnight were 970 ml."

Then if we move on to 19 in this same document. I think it's question 11(e). Maybe it starts to go over the page. No, sorry, this is not the same -- sorry. 002/2, page 19.

There we are. The query was in relation to explaining the effect of Adam receiving the 952 ml of clear fluid after admission instead of his normal 1.5 litres of Nutrison feed including -- and then there's a whole series of things, and one of them was whether this meant he was 550 ml in deficit.

And what you say to that is -- we start "at the effect of", third paragraph from the bottom:

"The effect of receiving 952 ml of clear fluid after admission rather than the usual 1.5 litres of Nutrison feed and a small volume of intravenous fluids (58 ml) meant that Adam was in relative deficit of 500 ml compared to previous days. He would therefore have been less well hydrated than usual and it is possible that this may have resulted in some degree of haemoconcentration which would have had the possible effect of increasing his serum sodium concentration. In normal circumstances, this deficit would have been addressed by replacing the deficit by extending his tube feed ..."

So there's a reference to you thinking he might have been 500 ml in deficit. I think you have previously said that both you and Dr Taylor thought that Adam was, to a degree, in deficit, as he arrived for his anaesthesia. If he was 500 ml in deficit, as you seem to be indicating there, how quickly would you need to address that deficit?

A. What I'm saying here was "possibly 500 ml in deficit", his intake compared to previous days. That is obviously an estimate because he had some peritoneal dialysis overnight and that would tend to produce some resolution of that.

Q. Yes.

A. So saying that he was 500 ml in deficit compared to previous days was to give Dr Taylor a guide as to where his fluid balance might be at that time. I think I said before lunch that knowing that he might be in fluid deficit, you would then be interested in the level of his CVP when that was first measured because if he was in significant deficit, then you would expect it to be low.

Q. Forgive me, I will come to the CVP, but what I'm interested in at the moment is how quickly you think that it would have been appropriate to recover Adam from that deficit.

A. That would depend on the CVP. If his CVP was normal, you would not be rushing to replace it because it might not be completely accurate. If it was high, you wouldn't be giving him any extra fluid at all. If on the other hand his CVP came back at 1 or 2, then you would conclude he needs that 500 ml and give it to him over the next two to three hours before the clamps are released, so the whole fluid balance management in theatre for a renal transplant is to ensure that the CVP is running around 10 to 12 at the time that the clamps come off. So you can't really separate the rate that you would give it away from the measurement of the CVP and that's why the CVP has been crucial to a lot of the

discussions in Adam's case.

Q. That's true, but in terms of the discussions you were having with Dr Taylor, there's no record in particular of those discussions being predicated by the CVP, is there?

A. No.

Q. And in fact, I think in a couple of your witness statements -- witness statement 002/3, page 40, and I think it's the answer to question 38(a) you say:

"Addressing the deficit over 2 hours would be reasonable."

I was going on to take you to that. In an earlier statement, you thought that addressing that deficit over two hours would be reasonable.

A. And if you go below that, it says:

"This is usually monitored by addressing the level of the CVP."

You can't divorce the two things.

Q. No, I haven't tried to do that. What I'm trying to address is your discussions with Dr Taylor and what I'm saying is that, at the moment, what we have seen is that you've had discussions with him about the fact that he's in deficit and there are some indications of discussions with him about how you might seek to address that deficit. But I'm not sure that we have seen any record

anywhere of the fact that part of that was all predicated on what he would find when he established the CVP readings actually in theatre. Because some of this is part of a plan that Dr Taylor is trying to put together as to what his intentions will be. Obviously, in something as unpredictable as the time to time of a surgery [sic], that plan has to be adjusted, but nonetheless there was a plan that he was discussing with you as his approach, if I can put it that way.

If we now go to your witness statement -- I think it's witness statement 002/3, page 39. Is it 37 (b)?:

"State the amount of fluid deficit which you believed at the time was to be corrected by IV infusion. The amount of fluid deficit which I believe was required to be corrected by IV infusion during Adam's surgery was approximately 500 ml."

Then I think maybe I was correct the first time that there was a reference to the time period in the previous page, 38. Sorry. Can we go back to 38?

What I'm looking for is where I think you suggest 1 to 2 hours.

A. I think I said 2 to 3 hours. However, that's a --

Q. Sorry, it's right at the top.

MR FORTUNE: It's also on page 40 as well.

THE CHAIRMAN: It's the last line above the letter (c).

MS ANYADIKE-DANES: Exactly:

"I believe that Dr Taylor then planned to make up this deficit during the first 1 to 2 hours of the surgical procedure."

So I understand what you're saying about the significance of the CVP measurement. What I'm putting to you is you were having these discussions with Dr Taylor because he is trying to formulate his plan going in, if you see what I mean, even if that ultimately has to change. And it seems that you are conceding that you were aware of the fact that Dr Taylor was going to make up that deficit and the deficit that we seem to be talking about is somewhere in or around 500 ml over a period of 1 to 2 hours; would you agree with that?

A. Well, I don't know that I can agree with that. You've just shown me a document from theatre which says that Dr Taylor estimated the deficit was 300 ml. And I have said in another statement that I thought it might be replaced over 2 to 3 hours. So some of this is because of the fact that, not only in the oral evidence, but in the written evidence, if you keep asking the same question recurrently, you don't always get an identical answer.

When I say I believe that Dr Taylor planned to make

up this deficit during the first 1 to 2 hours, I don't recollect that he ever told me that, therefore I can't recollect why I've written "1 to 2 hours" there and "2 to 3 hours" somewhere else.

THE CHAIRMAN: If you just go four lines up. You say there:

"I wish to emphasise again that I do not remember details and I can only state what I believe I would have discussed."

A. Thank you.

THE CHAIRMAN: I understand this is your best effort to piece together, some years afterwards, what you think was happening, did happen, and what you would have discussed.

A. Yes, and when I say I believe that Dr Taylor planned to make up this deficit during the first 1 to 2 hours, I may have formed that conclusion having seen subsequently the fluid balance sheet in theatre where he did indeed try to make up it over 1 to 2 hours. It may not have been what I understood at the time. I'm sorry.

MS ANYADIKE-DANES: No, no, there's nothing to be sorry about. We can only get the best evidence that we have. There's nothing to apologise about.

Can I ask you a slightly different question, but in the same area? I think, a number of times, that you have said that getting Adam well or as well as he

could be got to the operating theatre for his anaesthesia was your responsibility.

A. Yes.

Q. You and your team's, if I can put it that way, and you are the consultant, so it is your responsibility; would that be fair?

A. Yes.

Q. I think you have conceded -- conceded is the wrong word. I think it would appear to be the case that you required Adam to be in deficit, whether it's the 300 or 500, you have put it variously. But whatever it was, you seem, at that time, to have formed the view that he was in deficit. So he wasn't entirely neutral, in other words, optimum [sic], if I can put that way.

A. I was warning Dr Taylor that it was possible that he was in deficit.

Q. Yes, I am coming to that. When you were doing that, since your intention would actually have been to have got him to Dr Taylor not in deficit -- that's not a criticism, things happened over the course of the evening and that's how it happened. But since your intention would have been to get him to Dr Taylor not in deficit, can I ask what was the conversation, so far as you can recall, that you would have been having with Dr Taylor about what you thought ought to happen?

Because you've now presented your patient to him not quite as you would have liked to.

A. What I would have expected to happen was that the CVP would be monitored and, prior to the clamps coming off, that you would be sure that the CVP was running at 10 to 12. That would tell you he was now in the correct fluid situation to fill an empty kidney. And that is the responsibility of the people in theatre.

Q. That I understand. But your responsibility is to get him to Dr Taylor, so far as it can be done in all the circumstances, in an optimum position. And you have got him to him slightly in deficit according to your belief at the time. All I'm asking you is: having done that, do you have a conversation about how quickly that could or should be recovered or is your conversation confined to: well, see what happens when you set up his CVP and you get the values?

A. My conversation is that I give Dr Taylor or whoever the anaesthetist is the best information I can give them, and I hand Adam over to their care and I would expect that they would then manage the situation in relation to the CVP, blood pressure, et cetera. That's what anaesthetists do day and daily.

Q. I'm not saying that. So, so far as you are concerned, you wouldn't have been having a conversation with him --

A. I would not have been telling him --

Q. -- what he had to do about the deficit; you'd be simply telling him that there was a deficit?

A. That there was a possible deficit. I wouldn't be telling him how to manage that situation.

Q. Thank you. Something else that you were seeking to assist us with, which was actually when you were in the hospital and when you were having the conversations that you had with people. And we know that you had telephone conversations with Dr Taylor and Mr Keane in the evening of 26 November and you have said that you thought your best recollection is that you left the hospital around about 2 o'clock, having taken the consent from Adam's mother. Then you weren't entirely clear yesterday when you might have come back, I think that would be fair to say.

You also said that it would be very often your practice to go with the child to theatre, but you couldn't exactly remember whether you had done that with Adam; is that fair?

You do, though, seem to indicate in your witness statements that you had some conversations with Dr Taylor on the way to the theatre. If I help you with that, I think the first one is witness statement 002/2, page 20. It's the answer to question 11(i):

"I further informed Dr Taylor, consultant anaesthetist, of the difficulty with the intravenous fluids overnight when we met at the time of Adam's transfer to theatre."

Then you find, of course, that he's already had that discussion with Dr Montague. So there seems to be an indication from you that you met Dr Taylor at the time of Adam's transfer to theatre. And there's another witness statement where you say something rather similar. You say in your witness statement at 002/3, page 38, I think it's question 35 where you say:

"[You] believe at the time of transfer to theatre that [you] and Robert Taylor discussed that there was a fluid deficit of about 500."

I think it's the third substantive paragraph under (d):

"While there is no clinical note in relation to post-dialysis assessment, I would have been aware that Adam had received 970 ml fluid overnight. Undoubtedly, there was a discussion between myself and Dr Taylor that he was some 500 ml in deficit since in the normal evening Adam would receive --

MR UBEROI: May I rise again? Perhaps to add the context to the answer at the top of the page, which is I think what you quoted earlier:

"I wish to emphasise again I do not remember details [et cetera]."

MS ANYADIKE-DANES: Thank you.

Then just in fairness to the --

THE CHAIRMAN: Sorry. Ms Anyadike-Danes, is it your point that while the professor said in these statements a number of times, "I can't remember exactly", he has gone on to say things like -- in fact, in this extract he says, "There undoubtedly was some discussion". So it's not that you can't -- as I understand it, professor, it's not that you can't -- that there wasn't a discussion --

A. It's that I don't remember the precise detail.

THE CHAIRMAN: But there was, undoubtedly, a discussion.

A. Yes. And no matter what time I came back to the hospital -- whether it was, you know, 6.40, 6.45, 6.50 -- what I certainly did was meet with Professor Taylor in theatre shortly after Adam was there.

MS ANYADIKE-DANES: Just in fairness, one quick point to put the thing in the round. In your witness statement at 002/3, page 40 -- I think it starts at page 40. It may actually go on to the next page. I think the answer you're giving is that you don't believe you did discuss the speed with which the deficit should be made up with

Dr Taylor or anyone.

A. Yes, I've already said that.

Q. For the purposes of the record, I'm identifying where you have said that in your own statements.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Only in fairness. Since there was mention of 1 to 2 hours and all that sort of thing, I thought it fair to put the places where you said you didn't.

Can I ask you something else that's an issue, and that's the effect of the peritoneal dialysis, in relation to two things, really? One, the serum sodium concentration and, secondly, his fluid balance. In your view, what's the effect of it?

A. Well, obviously peritoneal dialysis, the entire design of peritoneal dialysis and the nature of the fluid that Baxter Healthcare have developed and that is used throughout the world, indeed, is that the sodium content of the fluid and the dextrose content of the fluid produces a situation whereby it tends to normalise the sodium and tends to normalise the fluid balance. I think I've said that in a statement: that if you were relatively fluid overloaded, the nature of that dialysis fluid is that it removes fluid from the patient. If they are relatively dehydrated then some fluid from the

peritoneal dialysis fluid tends to move to the patient, or at least does not remove any fluid. And similarly, with the sodium, the sodium across a semi-permeable membrane, which is what the peritoneum is, tends to equilibrate across that so that if you have a high concentration on one side and low on the other, if you continue the peritoneal dialysis for a sufficient time, the two sodium levels will equilibrate, and the nature of the fluid that Baxter have developed is such that it should produce a sodium that is in the normal range or, at least, at the lower limit of the normal range.

Q. Yes.

A. So my feeling is that, after peritoneal dialysis, it should have helped balance his fluid and it should have helped keep his sodium -- or should have made his sodium normal. And I think I've said that in a statement.

Q. You have said that, but I was simply getting you to articulate that in light of the fact that you thought Adam might have been in deficit. I wonder, though, even though you thought that that might be the effect, and you were concerned that he was in deficit to whatever degree, it's still the case, isn't it, that you wanted his electrolytes to be tested?

A. Yes.

Q. You were quite clear about that. I think you had

understood the reason why they weren't done when you thought they might be done, but I think, throughout your statements, your continuing view is that they should be done.

A. Well, I ordered them to be done.

Q. Yes, and in fact if we go to witness statement 002/3, page 14, it's the answer to (b)(i):

"Attention was given to the need to maintain a similar fluid and electrolyte input to that which Adam normally received."

Okay:

"I was aware that Adam's sodium level was normal on the evening of 26 November. When his transplant anaesthetic team until the following morning, I made it clear to Dr Taylor that it was important that his sodium and electrolytes were checked immediately prior to theatre."

Now, that can't be much clearer than that. Can you help, though, with when you said that? It was obviously going to be some time after you knew that the surgery was delayed. Is that part and parcel of the conversations that you might have been having on your way with him to theatre?

A. On the way to theatre? No. I think that I had planned that his electrolytes and urea would be checked prior to

him going to theatre, but we knew that his venous access had gone and therefore I think what I'm trying to say is that I was making it clear to Dr Taylor that once he had got to theatre, we should then check his urea and electrolytes then. When it says here:

"I made it clear to Dr Taylor that it was important that his sodium and electrolytes were checked immediately prior to theatre."

I don't have a clear memory that I said those very words, but I've written it down at that time.

I certainly made it clear that it was important from my point of view to have his sodium and electrolytes checked, and that is why I ordered them and why I agreed with Dr Taylor that them not having been done, that they would be done shortly after he went to theatre.

I would say, of course, that I expected them to be reasonably normal, but I wanted to be sure.

Q. Why was it important from your point of view? Because at the time it's going to happen, he's just on the cusp of passing from your care to Dr Taylor's care, so why was it important for you?

A. Well, you've already said that my responsibility was to make sure that he got to theatre in the best state possible for this surgery, and therefore that was the end of my responsibility so that I could be happy in my

own mind that his sodium was normal.
Q. Well, if that had happened at that stage, you wouldn't be getting the result back at a time when you still had care of him.
A. What's the --
Q. Because I think what you then --
MR FORTUNE: I'm not sure I understand the question because it depends how the --
THE CHAIRMAN: Excuse me, Mr Fortune. I think your client was asking for a clarification of the question, which I assume Ms Anyadike-Danes was about to give.
MS ANYADIKE-DANES: Yes. What I thought you had said was that why it was important for you is it was part of your last part of handing over for you to satisfy yourself that he was in the appropriate condition. Well, unless those results were coming back instantaneously from the laboratory, I think the final position on the testing is that his bloods would be tested when he was in theatre and he had got access to him because, of course, he had been upset with lines and so on and so forth earlier, which was the reason why they hadn't done it before. So if it was happening then, then he's already in the care of the transplant team and, in any event, you wouldn't getting a result back in time for you to be satisfying yourself about anything prior to care having

moved.

So once he was not going to have those electrolytes carried out over the evening of the 26th or in the early hours of the morning, but that was put back for various reasons, which are discussed, to when he is in theatre and is being anaesthetised and lines are being put in and so forth, was it still important for you to know?

MR FORTUNE: Sir, this question is predicated on the basis that the U&Es are going to be tested in the laboratory and not in any machine close to theatre, in which case there is a very different timescale.

MS ANYADIKE-DANES: We'll go to whether you thought they were going to be tested in a laboratory or not.

A. Can I just say something?

Q. Yes.

A. If you're looking after a child and you feel it's important for the electrolytes to be done, it's not important that I personally know the result, but that the person who has taken over his care has the result. So the electrolytes would have been done. I would have probably been interested to know what they were, but also Dr Taylor would have been interested to know what they were.

Q. Exactly, professor. That was precisely the point I was trying to get at: that, in fact, at that stage, the true

benefit of those results is for Dr Taylor because it should be assisting him in his fluid management; isn't that right?

A. Yes.

Q. Thank you.

A. It's also true what Mr Fortune says: that you could have had a sodium check both on the blood gas analyser and in the central laboratory and had it fairly quickly.

Q. Yes, you could.

A. I thought --

Q. What did you think they were going to do?

A. I thought they would go to the laboratory.

Q. Yes, thank you. I thought you had said that earlier.

A. Yes.

Q. In fact, I don't think you include the laboratory part of it, but in your witness statement at 002/3 at page 39, I think you say that your understanding was that once Dr Taylor had established IV access in theatre, a blood sample would be drawn and that that is what would be tested.

You have spoken about the importance of the CVP. Once the central line is in and the CVP is being measured, in terms of relative importance to Dr Taylor at that time -- this is for the purposes of fluid management, what was the continuing importance, if I can

put it that way, of the electrolyte result?

A. In relation to the CVP?

Q. When we were previously talking about how quickly he might have to redress the deficit, you said the really important thing is to get the central line in, get the CVP readings coming and then you can take a sense of how he is from there. But on the other hand you have a different kind of measurement in terms of his serum sodium measurement. What I am seeking to ask you is that both of them, you have said, are important, but --

A. The time differential.

Q. Yes, exactly. Does one assume greater importance than the other in trying to adequately manage Adam or is it just something that you have to have both of them, really?

A. You'd like to have both of them, but of course as soon as Adam arrived in theatre, he was induced intravenously, so Dr Taylor was able to get a peripheral line in and, at that point, you could have sent a blood test to the laboratory and then you would have moved on to do the other things he was doing: getting the central line in, which he had some difficulty doing, as we know, and setting up the epidural and so on. So by the time those things were complete, you would hope that you would have had a result back from the lab.

Q. Yes. And at that time, I think you had previously said that you thought there would be a turnaround time of about an hour; is that right?
A. Mm.
Q. If you needed it sooner than that, in your experience, could you get it? Could you make a phone call or ask for a phone call? Could you get it sooner than an hour?
A. I certainly have had it sooner than an hour.
Q. Thank you.
A. But I think if Professor Savage phones up and says, "I need this desperately", it might be slightly quicker than if an SHO phoned up, it has to be said.
Q. Sorry, I was talking about from theatre.
A. From theatre? I would think that of someone in theatre phoned up and said: we have this child in theatre, we need his sodium urgently, you might have got it back slightly quicker, yes.
Q. Yes. You have just reminded me about something I wanted to ask you in relation to the electrolyte results. The electrolyte results that come back from the blood that's tested at 9 o'clock, I think it is, on the 26th. That's the 139 millimoles, for which there is no blood laboratory result in his notes and records. When you were talking about the DLS sending things subsequently, we have had a subsequent lab result, which relates to

a blood test, which was taken -- it's difficult to be precise about it because you don't know, but some time later, maybe 11 o'clock when he was being seen. It's difficult to say. In any event, that result is 133 millimoles. So it's going down.

Do you recall whether that was -- whether you saw that or were aware of it?

A. No, I don't. And in fact, of course, the 139 may have been 134.

Q. Well, I think we have sought the witness evidence on that, and I think that Dr O'Connor has -- no, Dr O'Neill recorded it and I think Dr O'Connor has conceded in her witness statement that she incorrectly transcribed that on to the transplant form. She thought an open 9 was a 4, if I can put it that way, but I think both she and Dr O'Neill have conceded that the correct value is 139 millimoles. So we have 139 millimoles from bloods roughly about 9 o'clock and we have 133 millimoles from bloods taken some time much later on.

A. I have seen that.

Q. But you had not seen that. You have seen it since?

A. Yes.

Q. But you didn't see it at the time. Were you even aware of it?

A. I don't think so. I don't know when that blood was

taken, but remember he had bloods taken when he arrived, which went off to tissue typing and so on. Subsequently, it is possible, and again I wasn't directly involved, that somebody was trying to put an intravenous line on him and may have obtained some blood at that stage and it was sent off then.

Q. Yes.

A. I don't know what the time difference on those things are. That line that was obtained subsequently in the evening, if you remember. It only lasted a very short period of time and he only got 18 ml. And I know there's been a question of why there was no fluid prescribed at that time, and it's possibly because the drip tissued and therefore there was no point in prescribing it.

Q. I was thinking more of the serum sodium result. Had you known it was 133, would it have made any difference?

A. No, I don't think so.

Q. Thank you. One other thing I was asked to pick up with you, and that is -- I won't go through the whole thing about Mr Brown and how he came to be in the team. It rather seems as if he volunteered himself from one of his witness statements. There is one point that I --

A. Can I make one point about Mr Brown? I just wanted to say after all the questioning yesterday -- and I was

tired at the time -- there was nothing Machiavellian about Mr Brown being involved in theatre. He's a senior surgeon who's offering to help the transplant surgeon rather than a registrar. It probably seemed to everybody this was a good idea, and he also had, as you know, previous experience of Adam. And I apologise to Adam's mother that I apparently did not inform her of that or get her permission, but it wouldn't generally have been our habit to tell people who the assistant and so on was. I can see, reading things now, that that distressed her subsequently and I apologise for that.

Q. Thank you very much.

A. But I think it was -- I probably felt it was probably in Adam's best interests to have a senior surgeon working with the transplant surgeon and that was probably the reason for it or the reason for my thinking about it.

Q. I think the general tenor of the questions were twofold: one, how did he come to be in the team; and, secondly, why she wasn't told about it? I think that was the general drift of it. What I had been asked to make sure I've clarified with you is: when you came out of theatre -- I'm not entirely sure when you came out of theatre; I'm going to ask you about that in a minute. But whenever it was -- it doesn't matter -- you came out of theatre, you were going to go to your university

duties and you spoke to Adam's mother and you gave her a little bit of an update, if I can put it that way, as to what was going on and reassure her, I presume. But you told her then that Mr Brown was the assisting surgeon and one of the points I'm asked to clarify is: well, why did you?

A. I don't know. I possibly said to her, "We've got a good team, we've got the transplant surgeon and one of the senior consultants, Mr Brown helping", and then it transpired, of course, that she wasn't particularly happy about that. And that is why I say I'm sorry I caused her that distress.

Q. I understand that. I do understand and I'm sure she appreciates the way that you've put it, but what I'm trying to understand is that if the purpose of telling her that would be to give her some comfort: look, don't worry, we've got a good team, one might think that the time to do that is when somebody is either giving their consent or they are being given there further information. That's the time they need greatest comfort, they're about to decide yes, no, and you might think that would be the time that they would like to know who their full team is going to be. You had already said there was going to be a paediatric consultant surgeon, but in any event, you're not sure

why you told her that at the time?

A. I'm not sure I told her one thing at one time ...

Q. Yes. If we just go now to the phase when you're in the operating theatre. You did say a little while ago that you were in the operating theatre at that early stage, I think.

A. Mm.

Q. So you've had some conversation with Dr Taylor en route to theatre and some time after Adam is in theatre, you're in theatre.

A. Well, I think most likely I had that conversation --

Q. In theatre? I'm sorry. In theatre.

A. Do you remember? He went straight into theatre.

Q. He did. He didn't go into the anaesthetic room, no. If you had that conversation with him in theatre, was Adam there?

A. I would think so. I can't remember. I would think so, yes. I know that Bob Taylor was there for an hour beforehand going over his notes, making various calculations and so on.

Q. Is that where he went over the notes, in theatre?

A. I don't know, but I've read that he says that he went through the notes in detail before --

Q. Sorry, if you could help me with the bits that you do remember. If you were in theatre then, so far as you're

concerned, was Dr Taylor going over his notes in theatre?

A. I think when I saw Dr Taylor, Adam was already in theatre.

Q. Right. That's what I thought. So Adam's already in theatre. Is he anaesthetised at that stage?

A. I don't remember. I think as soon as Adam got to theatre, he was anaesthetised because, of course, he had unpleasant memories of being to theatre many times and I'm sure that what happened is that Dr Taylor made sure he was asleep as soon as possible so that he wasn't there distressed.

Q. What had you gone in at that stage for?

A. I'd gone in just to liaise with Dr Taylor that he -- any information he needed, he had available to him.

Q. Did he ask you for anything?

A. I don't think so. Not that I remember.

Q. Can you recall what was actually going on when you were there?

A. No.

Q. Can you recall who else was there?

A. No.

Q. Can you recall how long you stayed, roughly?

A. I don't remember. I probably would have stayed for 15 minutes or so. But, obviously, at that stage for the

anaesthetist, he has a lot of work to do: he has a central line to put in, he was talking about an epidural so he didn't need someone ...

THE CHAIRMAN: Need you hanging around?

A. Yes. So having checked that he felt he had all the information he needed, I would have withdrawn and let him get on with the essential things that he had to do. But I wouldn't have gone very far away.

MS ANYADIKE-DANES: Did you go back in again?

A. Yes, I was in and out, I think, during the next hour or two.

Q. Dr Taylor actually says that he wouldn't have agreed to do the procedure unless he had the full and experienced team, including nephrologists all gowned up and surrounding him. I will give you the quote for that. I will draw that to your attention, Professor Savage.

A. I think you did ask me in the written evidence if it was my normal practice to be gowned up and the answer to that would be no.

Q. You did pop in and out --

A. I'd be in theatre blues and have a head covering on and a mask probably.

Q. Yes. Do you recollect how many times you were in and out?

A. I don't.

Q. A number?
A. Probably, yes.
Q. What were you going in and out to do?
A. Just to be available if anyone wanted to ask me anything or wanted any information. And, primarily, so that I could go back at some stage and say to Debra Strain, "Things are moving ahead in theatre, Adam's fully anaesthetised, he is fast asleep and they're about to start the surgery", and again I don't remember whether I spoke to the Strain family once or twice, but usually I would speak to them once or twice in that sort of time period. But really all I would be saying is, "Things seem to be going ahead satisfactorily", which was the information I was perceiving from my visits to theatre. So it's a supportive role; it's not an active clinical role.
Q. I understand that. I think Dr Coulthard has referred to it as a holistic thing.
A. I think --
Q. I think he literally called it that, a holistic role.
A. And I think -- we have asked other centres: do they spend time in theatre during transplants? And it would appear that not all of them do or, indeed, visit the theatre.
Q. Although I think that Dr O'Connor would say that that is

rather her practice now.

A. It is.

THE CHAIRMAN: Have there been times in previous operations or transplants when you have been there and questions have been asked of you about historical patterns and traits in a particular child?

A. It's possible. I must say, the information's usually the other way. That I'm going in and saying to the transplant surgeon, "Is everything fine? Are you nearly at the point of taking the clamps off? Has the kidney pinked up?", and the other role is just to make sure that the immunosuppression drugs you give at the time the clamps come off are given.

THE CHAIRMAN: So when you're in, are you typically in for just a minute or two, you're not there for 10 to 15 minutes?

A. You might be if you had nothing else to do. I would often be there for 10 or 15 minutes, yes.

MS ANYADIKE-DANES: Who are you typically liaising with when you're there?

A. Usually the anaesthetist and, occasionally, the surgeon.

Q. We have seen some photographs -- I think when I was opening -- to see the layout of the operating theatre, and the anaesthetist up with the equipment, the machinery end. Is that where you would go over there

and have a word with the anaesthetist?
A. I think it was a Google picture.
Q. There were a number of those.
A. Yes. It's the same sort of set-up. Everybody's very close.
Q. Yes. That's the point. Did you have a look at what was going on as well as ask a few questions? I'm trying to find out what your typical modus operandi would be, if I can use that expression.
A. I might. You mean how nosey I am?
Q. From what you said, you're actually trying to get a sense of [OVERSPEAKING] so you can convey that on to the family.
A. Yes, if everything is going smoothly.
Q. That's the point.
A. And, actually, for my own benefit as well. I want to know that everything is going well.
THE CHAIRMAN: Sorry, if there's cross-talking, the stenographer can't record anything.
MS ANYADIKE-DANES: That was my fault, Professor Savage.
What I had put to you is -- I presume the point is you're trying to get a sense of things so that you can accurately convey information to the family.
A. Yes, I want to be happy that things are going along relatively smoothly and -- both from my own point of

view and so I can say to the family, "Things are going well". Obviously, when your child is in theatre for 3, 4, 5 hours, you're going to be worrying yourself sick. So it's useful if someone comes along and says, "Things seem to be going okay", or, "It's a bit slower than usual, but we're getting there".

Q. But the other thing, of course, is that at the time of Adam's renal transplant surgery, there hadn't been that many of children of his age before him. Might there not have been a professional interest as well to see what's going on as well as your own concern for him as a patient who's been in your care since he was about 3 months-old?

A. Yes. Well, there's a sort of idea that I might be more interested in a 4 year-old than an 8 year-old, but ...

Q. No. I'm not certainly not saying that. I was putting it to you in two ways: one, there weren't that many so one takes the opportunity to see what's going on just for scarcity; and, secondly, you had described him as a little boy to whom you had affection for since -- I'm not saying you don't for any of your others, but he'd been in your care since he was about 3 months old, wasn't he?

A. Yes.

Q. So that might have been another reason for wanting to

satisfying yourself, so far as you could, as to what was actually going in in there. Would that be a fair way of putting it?

A. Yes.

Q. What was your sense of what was going on?

A. Everything seemed to be fine. That's what I was told.

Q. Did you look at anything yourself?

A. Up until 9 o'clock, I didn't have any concerns that there was any problem.

Q. Had you got any idea of what was happening at the fluid administration end, if I can put it that way?

A. No, I didn't.

Q. If fluids had been administered at a rather speedier rate than you would have expected, is there anything that would enable you to detect that?

A. Not directly, unless someone told me. If someone said to me, "We've given him a litre of fluid in the first hour", then I would have probably thought I needed to think about that, but that sort of communication didn't happen.

Q. And given the significance that you had earlier mentioned of the CVP, was there any indication from anybody that the CVP recordings had proved a little problematic and, in fact, weren't being relied upon at all?

A. I don't remember being told that at all.
Q. Whilst you were there -- not literally, but all the times you were there -- had you got any sense of the actual personnel there: the people, how many they were and what they were doing? Let me help you with that. It's a very open question.
A. I'd have known there's a surgeon and his assistant and anaesthetist, someone working with them.
Q. What about nurses?
A. And nurses. There would be a scrub nurse who was totally engrossed in the thing and another nurse who would be giving her instruments or whatever she needed and doing swab counts and so on as they used swabs up.
Q. Could there have been a third nurse?
A. Are you going to ask me if there was an anaesthetist nurse? I don't know.
Q. I wasn't going to put it that way because you'd have to know that that is what that person was. I was simply going to ask you: could there have been a third nurse?
A. I thought about that because I know that you've been interested in it. I don't know why you're so interested in it because I don't know that we designated people as an anaesthetist nurse in those days. There are now quite sophisticated anaesthetist nurses and anaesthetist nurse practitioners, but I don't know that there were in

those days. Then, of course, I didn't work in theatre.
THE CHAIRMAN: Professor, we're interested in it because we were told in some statements that there was an anaesthetist nurse.
A. That there was?
THE CHAIRMAN: Yes. That's why we're interested. We are not interested in it for fun. We are interested in it because some statements we received said there was an anaesthetic nurse and one of the queries we've had is whether this is somebody using 2011 terminology backwards or whether there was, in fact, a person who, however described, was filling the role, which is now described as anaesthetist nurse.
A. Who would have been an assistant to the anaesthetist, you mean?
THE CHAIRMAN: Yes.
A. As opposed to working with the surgeons? I don't know the answer to that.
THE CHAIRMAN: I'm just explaining. When you were saying you don't know why we're interested in it, that's why we're interested in it.
A. It was a bit unfair of me to say that. I think what I meant was that the terminology "anaesthetist nurse" may not have been in common use then.
THE CHAIRMAN: There's a point about who, apart from

Dr Taylor, who was doing the anaesthetics. I think that's the --

A. I can't answer.

MS ANYADIKE-DANES: That's rather why I put it as, "How many nurses"?. I wasn't seeking to call them "anaesthetic" or anything. I thought we would get round that problem by seeing --

A. I apologise for pre-empting --

MR FORTUNE: Sir, there can be no suggestion that Professor Savage was seeking to take the matter lightly, but there is of course --

THE CHAIRMAN: I'm not accusing him of that, Mr Fortune. You can relax. He seemed to be -- look, I will let it go. I'm not accusing him of that.

MR FORTUNE: Thank you, sir.

A. And I wasn't taking it lightly.

THE CHAIRMAN: I understand.

MS ANYADIKE-DANES: In any event, I can't remember your answer. Can you remember whether there was a third nurse or not?

A. I don't and you'd better stop smiling at me, or I'll be ...

THE CHAIRMAN: Okay. Let's move on.

A. No, I don't, I don't recollect this was a specific anaesthetist nurse. I don't remember that.

MS ANYADIKE-DANES: Thank you.

Was there ever a time when you went into the operating theatre and there was less than two anaesthetists, so far as you can recall?

A. I couldn't answer that.

Q. These are your perceptions. I appreciate that I'm asking for them considerably after the event. But so far as you can help us, was there anything different about the mood or the way the surgery was proceeding, so far as you could tell, from anything that you would have seen in any other time when you have been in an operating theatre?

A. No.

Q. Thank you. You had your university duties and so you weren't going to be able to stay for the entire period of his surgery. When did you first know that? Sorry. When did you first appreciate that that might be the implications of when his surgery started?

A. Well, I know you have asked me this in the written evidence as well. I always knew I was on call for the weekend and I always knew that I would have work to do in the university on Monday morning and I always knew over that weekend period that Dr O'Connor would be coming in at 9 o'clock.

Q. Can I ask you then: did that require a briefing to

Dr O'Connor from you?

A. Yes, Dr O'Connor and I would have discussed what had happened the previous evening and what was happening that morning in theatre when we talked to each other. It's like so many things: we didn't record what we said to each other.

Q. I understand that.

A. But of course, I wasn't far away. If you remember, you have a map which shows where the laboratory is. My university office is just beside that. It's not very far away and I have a bleep and a telephone, so although she was the person who's calling in and out of theatre by that time, I was readily available if needed. I would have dropped everything, as I did when Dr O'Connor phoned me late in the morning and said that there was a problem. I was back very quickly, as you can imagine.

Q. I understand. There was a reference I couldn't find, which my learned junior has now found. That's 093-038-126. This is Dr Taylor's PSNI statement under caution and he says:

"In a long case lasting over 4 hours, it is not possible to provide patient safety with a single anaesthetist. I only agreed to provide general anaesthesia for Adam if an experienced senior registrar,

Dr Montague, experienced theatre nursing staff and with ready access to experienced surgeons and nephrologists who were in theatre dress and present beside me in theatre for large parts of the procedure."

If we just pause there. Please say if you don't remember well enough to answer, but how would you classify the amount of time that you were actually spending as you went in and out to satisfy yourself as to what was going on in terms of the requirement that Robert Taylor has described?

A. Well, I wasn't in theatre constantly, but I was very close to it, so if he had ever needed me, I could have been there within the minute.

Q. I understand that, and please believe me, this is not intended to be a criticism. I'm just trying to see where the perceptions of two people are.

A. I'm just trying to tell you --

Q. He's put it that he wasn't going to do it unless -- if I leave out everybody else --

"Nephrologists who were in theatre dress and present beside me in theatre for large parts of the procedure."

I'm trying to get a sense --

MR UBEROI: He's also stated "ready access". Sorry to split hairs, but I think it's important.

MS ANYADIKE-DANES: Yes, ready access. When you described

your pattern of going to check up on what's going on, does that -- how does that equate to how Dr Taylor has put it?

A. Well --

Q. That's all I'm trying to get a sense of.

THE CHAIRMAN: I think the professor is saying he's either in the theatre or he is within a minute's call, so he's either in the theatre or there's ready access.

MS ANYADIKE-DANES: It wasn't that. It was the duration of time when you are in the theatre. That's what I'm trying to get a sense of. I understand that you have ready access, your office is close by. I'm trying to get a sense of the periods of time when you do go in, roughly, what sort of time are you staying there for?

A. I don't remember, but I would be there enough time to make sure everything was fine and, in terms of being gowned up, I don't remember anyone ever making the request for me to be gowned up. Usually people are only gowned up if they're actually involved in the operation. I would have theatre gear on so I was sterile, but I wouldn't have green gowns on.

Q. That may have been slightly different terminology.

A. I think it's just a matter of terminology.

Q. Yes. Did he ask you to be there at all or ask whether you would be there or, if you were going to be there,

how long you would be there?

A. I don't think so, but I would imagine that Dr Taylor expected that I would be doing what I did, that I would be around all the time if he needed me.

Q. Thank you. Then if we come now to -- I think we were just -- I was going to ask you about the handover to Dr O'Connor. She knew she was going to have to cover that for you because that's just the way the time fell, if I can put it that way. What's the nature of the handover you actually give her? What do you tell her?

A. I would have told her that we'd been offered a kidney the previous day, what the tissue type was, the fact that we had had to put the operation off for surgical or anaesthetic reasons until later than would have been optimal.

I would have told her we started the surgery at 7 o'clock, that he'd had overnight dialysis, that his electrolytes and so on -- I would have gone over the notes that were in his clinical chart with her and we both would have been relatively satisfied that each of us knew what was happening and what was going on.

Dr O'Connor then took over the same role as myself of going in and out of the theatre and making sure there were no problems that needed to be addressed from a medical point of view and was also aware, of course,

that if there was something she didn't know, I was not too far away to consult. Does that answer your question?

Q. Well, yes. I'm simply trying to find out what the handover to her would mean and I think you've tried to answer that.

A. It's a verbal handover, so I would tell her exactly what I've done overnight so she's aware of what has happened and the stage we're at in the transplant.

Q. Nowadays, would you put anything in the notes?

A. I don't think so.

Q. Thank you.

THE CHAIRMAN: Is that because there was nothing to alarm you at the time of the handover?

A. I think that's right.

MS ANYADIKE-DANES: Adam's mother says that you spoke to her at 9.30 that morning and she is quite clear about that. She explains why in her statement, why she is so sure that was the time. She says that you informed her that things were going well, an epidural was in place and that Mr Brown was assisting Mr Keane.

Did you tell her anything else about what was happening or is that the sense of what you would have conveyed?

A. Yes, I think I probably told her everything that I was

aware of from my visits to theatre.

Q. Maybe you can help us with this: if you're seeing her at 9.30, do you come and see her immediately after you come out of theatre so you can give her the most up-to-date report?

A. Yes. So when Dr O'Connor took over from me, I went and talked to Debbie Strain.

Q. Yes. So that means --

A. I had actually thought that possibly I'd seen her before that, but apparently not.

Q. If you were seeing her at 9.30 and if the results -- where was she, sorry, in relation to the operating theatre?

A. I think she was in Musgrave Ward.

Q. And when you were speaking to her, was anybody with her?

A. I can't remember. But I know that she had --

Q. I think she would say her sister was there.

A. Her sister was there.

Q. I think her sister's made a statement.

A. I don't remember if I spoke to just Debbie or Debbie and her sister.

Q. I understand that. How long would it take you roughly to get from the operating theatre to Musgrave Ward?

A. Two minutes. You walk there.

Q. So if you were seeing her at 9.30, is that a way of

benchmarking where you were likely to have been when the results at 9.32 are coming in?

A. Possibly. You think the 9.30 is that accurate? I don't know. It could have been 9.15.

Q. I have no idea. What I'm trying to ascertain is whether you could have been in the operating theatre at about the time when the events at 9.30, 9.32 were happening.

A. I didn't know that that sodium result came back. I wasn't aware of it.

THE CHAIRMAN: Would that be a cause of alarm?

A. A sodium of 123? Yes.

THE CHAIRMAN: And if you had known about that, would you have been able to reassure Adam's mother in the way that you did?

A. No. If I'd known there was a sodium of 123, I would have been wanting to get a result off to the lab and find out if it was correct and form a plan as to what we would do about it.

MS ANYADIKE-DANES: I know it's speculation and you don't like to do it, but now that you have started that: if you were in the operating theatre when that happened and you appreciated that happened, what, in your role as a nephrologist, would you have been wanting to do or ensure happened?

A. I have thought about that quite a few times and it's

very difficult to know what I would have done as a nephrologist because here's a child who's under anaesthetic and I have no control or skill in that area. So I think I would have had to defer to the consultant anaesthetist as to what the actual steps we took were. But certainly, I think if we had a sodium of 123, you'd have stopped giving any fluid that was hypotonic, that wasn't normal saline or plasma or blood. I think that would certainly have triggered you to look at the CVP and think perhaps we need to stop and find out if this CVP really is right because sodium of 123 would make you think that perhaps there's too much fluid aboard or something like that.

Q. Would that be a serious thing, a serious development, during a procedure of that sort, for that to happen?

A. Well, of course. I keep trying to say this is not an area that I work in, but --

Q. I understand that. You do, from time to time, go into operating theatres.

A. I do, but any child who has a sodium of 123 that you know was 134 not so long ago, you'd be concerned that that was quite a significant change. The trouble is that I'm used to working with patients that are awake and, if you have a child who has a sodium of 123 who is sitting talking to you and perfectly well, then

obviously you wouldn't be quite as worried as you would be if you had a child whose sodium was suddenly 123 and they were unwell or having a seizure or something like that.

Q. I suppose what I'm trying to get at, and it may not be a very fair question to ask, is: if a result had come through like that, what the likely consternation or not would be in that operating theatre.

MR UBEROI: Sir, if I may perhaps rise. I appreciate the way the question has been put, but you are hearing from Dr Taylor tomorrow. You're subsequently hearing from Dr Haynes, who's your expert anaesthetist. I just wonder, picking up on the comments the witness himself made, the extent to which this line of questioning should be pursued now.

MS ANYADIKE-DANES: I will go no further then.

THE CHAIRMAN: Okay.

A. I would agree with that. I think I am getting out of my depth.

MS ANYADIKE-DANES: I will take it no further.

Can I ask when was the first time you appreciated what had actually happened in theatre: that there had been a fall in his serum sodium of that sort, that he had had high CVP values and that he was unable to wake? When was the first time you realised that?

A. Dr O'Connor phoned me in my university office and said that Adam couldn't be weaned off the ventilator, he wasn't breathing spontaneously, she had looked at him and he had fixed dilated pupils, and I don't know if she told me at that point that she had looked at the fluid balance, but I rapidly went to the intensive care unit and reviewed the situation, with her and it was clear that he did seem to have had, I think, with a rapid calculation we thought he had had 1,500 ml of fluid more in than out on a rough calculation, so at that stage with a low sodium and subsequently with a lower sodium coming back from the laboratory, I think Dr O'Connor and I felt that there was a situation where his fluid balance was excessive on the positive side. He had a lot of fifth normal saline and we felt that he had probably got cerebral oedema and coned. And it's a moment that -- both the phone call and seeing Adam lives with me forever. It's like a cold hand on your heart. I knew that we were in a very difficult situation.

Q. What was his appearance when you saw him?

A. I have seen the photographs and I --

Q. But from your recollection.

A. Well, having seen the photographs, they do influence your recollection. But he was puffy, yes. He was more

swollen than -- his face was swollen, I think.

Q. You had seen him presumably after previous surgery?

A. I'd seen him the previous night.

Q. I know that, but you had also seen him after his previous surgeries, I presume.

A. Yes.

Q. Had you ever seen him like that?

A. I don't think so.

Q. When did you first speak to his mother after that?

MR FORTUNE: Sir, can I just intervene? Is my learned friend going to finish in ten minutes? Because if not, I'm going to ask that Professor Savage have a proper break at this stage. There's still quite a lot for my learned friend to cover.

MS ANYADIKE-DANES: Yes, I am.

MR FORTUNE: You're going to finish in ten minutes?

MS ANYADIKE-DANES: Yes, I am. Well, nine.

THE CHAIRMAN: 12. All the time in the world.

MS ANYADIKE-DANES: When was the first time you spoke to Adam's mother after you saw him like that?

A. I would need to look at the notes, but I think within the half hour.

Q. And --

A. I think I came back at 12.30 and I spoke to her at 1 o'clock. You have access to the --

Q. Yes. I'm just trying to see if you give a time. We'll check it if there is an actual time.
A. I think the counselling note from the nurse says 1 o'clock.
Q. Yes. Adam's mother says a number of things that she wasn't told and maybe you can help us with that. She says that at no time was she made aware of the problem with Adam's serum sodium levels. She was just told that Adam's condition was being treated aggressively and that everything was being done. That's in a letter that she wrote to the coroner and is part of the coroner's files, a letter on 17 January 1996. The reference for that is 011-006-019. She says she wasn't told anything about hyponatraemia and that's in her first witness statement for the inquiry. She was told that Adam's brain was swollen, but not why and she can't -- and that's in her second witness statement for the inquiry.

She says she can't recall being informed that Adam had been given too much fluid and she doesn't recall being given any information to explain how Adam ended up in such a critical condition.

Do you accept that she wasn't told those things? Or do you have no recollection?
A. I think she was told some of those things.
Q. You think she was?

A. Yes.
Q. There isn't a record of it though.
A. I think if you look at the nurse counselling note, it gives you some idea of what was said. But I'm very aware that I was telling Debbie the worst news she had ever heard and I've talked to people like that before, and I've been in that situation with relatives before, and you don't remember the detail of what people tell you. There was certainly no intention that we were not wishing to tell her what was happening and I think probably Debra and I had discussions about how puffy he was and that he had got too much fluid in theatre.
Q. Did you explain how it had happened?
A. I accept that I probably didn't go into the idea of hyponatraemia. I think if you're telling people terrible news, to try and get into a scientific explanation of the mechanism of it would perhaps not have been the best time.
Q. No, I didn't mean necessarily using the terminology. But I don't know, maybe you have said it and I just didn't hear you, whether you had explained that he simply was given too much fluid.
A. I think I did say that, yes.
THE CHAIRMAN: Yes.
A. And certainly over the next day or so, when we were in

a terrible situation, we would have talked again.

MS ANYADIKE-DANES: At any time did you use the expression "hyponatraemia"? I'm not talking about that day, but at any time did you use that expression and explain medically what had happened?

THE CHAIRMAN: Or do you know?

A. I do know, but I don't know when because I know that I met with Debbie Strain several times afterwards and I know she wrote to me and I wrote to her, and I believe in that correspondence I've mentioned dilutional hyponatraemia. But I do not wish to get into a situation where Debbie believes that we didn't tell her everything and that I'm contradicting that. I tried to tell her what I thought -- explained to her what had happened to Adam at the time.

MS ANYADIKE-DANES: I understand. Just two or three quick points to make. One is that you were present, were you not, at some point during the autopsy that was being carried out by Dr Armour?

A. Yes, I think so. I know that I've written to the GP and said that I was at the autopsy.

Q. Yes. I presume if you wrote to him saying you were there it's because you were there. Why were you there?

A. I think throughout my professional career, dating back to when I was a houseman with Professor Vallance Owen,

that he would always have said that your last responsibility to your patient was to go to the post-mortem. This is a patient you've looked after and you owe them the respect of attending their post-mortem. And I think that's something that I continue to practice and the reason I went was because Adam was my patient and I probably also felt that there should be someone there that knew Adam, not just a cold autopsy room. And that's the sort of reason that I went. But I also went to see that, yes, indeed there was cerebral oedema and that was the cause of his death.

Q. Did you have any discussion with Dr Armour while you were there?

A. I can't remember. I actually have no memory of being at the post-mortem. It may be that it was so upsetting to me that I've wiped it from my memory, but I don't remember being there, so I don't remember talking to her. But I was only there, as I say, because Adam was my patient and probably just to make sure that the conclusions we had reached were correct.

Q. Slightly before that, which I should have asked you: when you were speaking to Adam's mother and explaining to her and conveying to her the worst news and that that was going to have go -- those discussions, presumably, were going to go on up until the time when a decision

was going to have to be made about switching off the ventilator. You had some discussions with her with Dr Taylor; isn't that right? He accompanied you.

A. He came with me on the first occasion, yes.

Q. Did a surgeon ever come?

A. I don't think so.

Q. Was it your anticipation that, at some point, a surgeon would come and explain what happened in the theatre?

A. I don't think so. I probably thought that I had taken that responsibility now. This was Adam, who I'd looked after all his life, and I just took that responsibility on my shoulders.

Q. I understand.

THE CHAIRMAN: I just want to get that clear. Are you in effect saying, professor, that, in your eyes at least, the fact that you took that responsibility meant that it wasn't necessary for Mr Keane to speak to Debra Slavin?

A. I don't think I thought about it like that at all. Everything in those next 48 hours was trying to get through that desperate few days and help Debra Strain to get through those terrible days. If you remember, this is a woman who offered her child's organs for other children. Enormously brave in that situation.

THE CHAIRMAN: I just ask you that because you said when Ms Anyadike-Danes asked you whether at some point the

surgeon -- did you anticipate that at some point a surgeon would come and explain and you said you didn't anticipate that:

"I probably thought that I had taken that responsibility."

I was just wondering. That suggests that you thought that this was your task and therefore not anybody else's.

A. Well, I don't know that I --

THE CHAIRMAN: Is that pushing it too far?

A. Yes. It would have been good if one of the surgeons had come and spoken to them, but they didn't.

THE CHAIRMAN: Okay?

A. I suppose the other side of it is that Debbie didn't know the surgeon, but she knew me.

MS ANYADIKE-DANES: Yes, I understand. There are then just three points. I think there are only three to put to you quickly. The first is Dr Taylor has made a reference, and I will just call this up. 093-038-252. This is a reference to him having certain discussions with you outside the inquest or at least outside the chamber where the inquest was going on. He says:

"They both [and that is you and Dr Sumner] acknowledge that the cause of the papers on dilutional hyponatraemia couldn't have happened [I think it should

be 'to'] Adam and yet, in court, they say it did."

This is really part of Dr Taylor's belief -- certainly at that time -- that Adam couldn't develop dilutional hyponatraemia. And what he's suggesting here is that he spoke to you and Dr Sumner and that you had conceded that he was right about that. We can quickly pull up witness statement 00 --

THE CHAIRMAN: Sorry, it's the next -- read down a few lines. So Dr Taylor then says:

"So the sense of frustration was clearly evident in my ... And there's obviously a misunderstanding, but my reading of the literature [et cetera] Adam Strain cannot get dilutional hyponatraemia."

And he's suggesting that's what you were agreeing with.

MS ANYADIKE-DANES: Yes. I can help you with that in a bit more detail, actually, because he then goes on to deal with it in a witness statement: 008/2, page 40. Just to help you with that. I think he says ...

A. 105.

Q. 105, yes. Just picking that up:

"I have spoken to Dr Sumner. Dr Savage is outside the confines of the court. They both acknowledge that the cause of the papers --

The very quote that I just read to you. And he's

asked:

"State precisely when and where this occurred. It was during a lunch break during the coroners' inquest."

Do you recall that?

A. Well, I don't recall the conversation, but I can understand what he's attempting to say. And that is -- and I think I've said it previously in my oral communication with you that the Arieff paper blames dilutional hyponatraemia in children undergoing minor surgery on inappropriate secretion of antidiuretic hormone. Adam's kidneys could not respond to antidiuretic hormone, therefore that mechanism could not have caused his dilutional hyponatraemia. The dilutional hyponatraemia that occurred with Adam was because of an excess in rapidly infused --

MS ANYADIKE-DANES: I understand that.

A. -- intravenous fluid, if we agree with the experts and I certainly do. So I was not saying if this conversation happened and I have no reason to believe it didn't -- I would not have been saying he could not have developed dilutional hyponatraemia; it's the mechanism could not have been --

Q. Thank you very much. That's what I was trying to clarify.

Then the last two points are: Professor Kirkham has

referred to certain developmental issues in relation to Adam and, in her final report, she said he had an expressive language delay out of proportion to receptive language ability and she thought that that was an important difference for Adam compared to other children. That's at paragraph 62 of that final report of hers.

Then she says:

"On the balance of probabilities, Adam had a specific movement disorder affecting his sucking, chewing and swallowing that's not seen in other children with chronic renal failure."

And that's something she says at paragraph 63. Then she said:

"[She thought] he had neurological difficulties, including feeding, expressive language problems, evidence of cardiac compromise and a limp."

What I want to ask you -- I'm not asking you to step into the shoes of a neurologist, but in terms of how she describes Adam, do you recognise any of those descriptions in terms of expressive language delay and the specific sucking and chewing and swallowing mechanism?

MR FORTUNE: Before the professor answers that question, he is entitled to have the report in front of him. You

quoted at least two paragraphs. In fairness to him. Professor, do you want to see the report?

A. If it's easy, but what I would say is that I think Professor Kirkham does not have the experience of looking after children with chronic renal failure from infancy and the changes she describes are commonly seen in children who have had chronic renal disease from infancy.

MS ANYADIKE-DANES: And did you see them in Adam?

A. Some of those things were present in Adam. He was, remember, fed exclusively with the gastrostomy, so he didn't use his mouth and children like that tend to have speech difficulties and tend also to have hypersensitive mouths -- if you put solid food in them, it will make them gag -- and the same muscles and tongue movements that you use to chew and eat are the ones that you talk with. Therefore, in a renal patient who has that situation, we frequently see those sort of developmental problems and they are not related to neurological damage; they're related to uraemia, and I think that is quite clearly recorded in the nephrology literature. I would take issue with Professor Kirkham very strongly on that issue.

Q. And finally just on that point, you, of course, were responsible for trying to get some assistance for Adam

and his mother in relation to that. But in your correspondence, did you in any of your correspondence indicate that this was actually par for the course, if I can put it that way, of a child in his renal situation?

A. I don't know. I don't remember the letters that I've written, but of course we have a team that are used to working with children with chronic renal problems within the Children's Hospital and they would recognise that themselves.

Q. Thank you. Then there is the one final thing, as I said. Can we pull up reference 060-016-031? This is a letter from Brangam Bagnall to George Murnaghan, who was a director of medical administration of the Royal Group. It's in relation to Adam:

"I reference to previous correspondence and would advise you that the plaintiff's solicitors have spoken to it me concerning this matter ... discussion entirely without prejudice to liability. They would be prepared to ..."

Then there's obviously stuff that's redacted because we don't need to know that --

THE CHAIRMAN: Microphone.

MS ANYADIKE-DANES: Sorry:

"I believe from a liability point of view, this case

cannot be defended and this is based largely upon the information given by one of the independent experts retained by the coroner. Additionally, I believe it would be unwise for the trust to engage in litigation in this matter given the particularly tragic circumstances of the death and the opportunity for the exploration of any differences of opinion which might exist between a number of the attending physicians."

And then I wonder if you could help, whether you know the differences of opinion between the attending physicians that is being referred to?

MR FORTUNE: Before the professor answers, I do not know -- I have not seen this document before. I do not know whether Professor Savage has seen this document before.

THE CHAIRMAN: I don't think he has. Let me tell you two things. First of all, as you see from this reference number, this is a document which is in the files and secondly, this was a letter sent by the solicitors for the -- the then solicitors for the trust to Dr Murnaghan. Dr Murnaghan then wrote a similarly, but not identically, worded note to the individual clinicians, including Professor Savage. We can turn to that if Professor Savage needs it. But there is an almost identically worded note from Dr Murnaghan to Professor Savage to Dr Taylor, to Mr Keane, and to,

I think, one or two others.

MS ANYADIKE-DANES: Let's pull that up.

MR UBEROI: If I might add, perhaps along with Mr Fortune, to the extent if the witness is going to be asked to comment on a letter not written by him, I'm not sure it's a proper question.

THE CHAIRMAN: It's a proper question because of this: the witness is, in effect, going to be asked -- the letter suggests --

MS ANYADIKE-DANES: If I may intervene, I think it's 060-010-019.

THE CHAIRMAN: Right. Let's wait one moment.

This is the follow-up note after Dr Murnaghan received a letter from the trust solicitors. He sent this follow-up note to a number of individuals, including you, professor. And you will see it's in similar terms and the last sentence in the second paragraph is:

"It would not have been helpful for an opportunity to be provided to lawyers to explore any differences of opinion which might exist between various professional witnesses who would have been called to give evidence."

And I think the question which is coming to you is -- and the original letter referred to differences between clinicians. To the extent that you were

involved, and you were involved in Adam's treatment and on the day of 27 November 1995, and to the extent that you were a witness at the inquest, what is your understanding of the differences between the various professional witnesses?

MR FORTUNE: Sir, I object to this question. I'm not sure that it's a proper question for Professor Savage to be asked.

THE CHAIRMAN: Why not? If he's not aware of them, he can tell me. I would find it astonishing, Mr Fortune, if Professor Savage had not had discussions with people like Dr Taylor and Mr Keane and perhaps others about the circumstances in which people came to die. And in the circumstances in which Adam died, I would also find it -- this letter hints strongly at differences between professional witnesses in the same way as Mr Brangam's letter hinted strongly as differences between clinicians.

I'm not asking Professor Savage to speculate on anything; I'm asking Professor Savage to tell this inquiry what he knows about the differences between professional witnesses and clinicians. What is wrong with that?

MR FORTUNE: Sir, Professor Savage can speak certainly for himself and can speak in relation to any conversation

that he had perhaps with Dr Taylor on the day or indeed --

THE CHAIRMAN: Not just on the day. Not just on the day. Because Adam's death was entirely unexpected, wasn't it?

A. Yes.

THE CHAIRMAN: And it's quite obvious to me that it was a cause of great distress to you.

A. Yes.

THE CHAIRMAN: And you'd have been anxious to determine what had happened to make sure that it never happened again.

A. Yes.

THE CHAIRMAN: And in the course of those discussions, if there weren't -- let me put it this way, Mr Fortune: if there weren't discussions between the doctors, it would be outrageous, wouldn't it? Wouldn't it?

MR FORTUNE: Yes, I agree with that.

THE CHAIRMAN: Right. Then I'm asking the professor simply to tell this inquiry, to the extent that he knows from his own contribution and from his own discussions, what those differences were. What is wrong with that?

MR FORTUNE: As I say, he is entitled to speak for himself.

THE CHAIRMAN: He is required for speak for himself. I'm asking him the question. He's not entitled to speak for himself; he is required to answer that question unless you persuade me that there is anything remotely improper

about it.

MR FORTUNE: Sir, I have made my objection.

THE CHAIRMAN: I don't understand your objection. If he's part of these discussions and he's aware of differences between clinicians, he can tell this inquiry what those differences were.

MR FORTUNE: He has given evidence as to what happened. That is what I submit are the differences.

THE CHAIRMAN: Sorry, I have heard your objection. It doesn't make sense and I reject it. Mr Millar?

MR MILLAR: I have no objection to the line of questioning, but I do have an objection to the way the question was put by Ms Anyadike-Danes, which is exactly what prompted Mr Fortune to stand up. The question that she put, having read that document, was:

"I wonder if you could help whether you know the differences of opinion."

That letter does not refer to differences of opinion that did exist. The word "might" is crucial.

The professor had been asked, first of all:

"Are you aware of any differences of opinion?"

That would have been a fair question. But the whole implication of the question was that that letter reveals that there were differences of opinion. It's quite carefully worded to say "might".

THE CHAIRMAN: It hints very strongly that there were differences of opinion because that was given as a reason for settling the litigation. You're objecting to an earlier question. So if I can take it on -- if you don't mind, Ms Anyadike-Danes.

Professor, can I take it that you did discuss at some length and in some detail with people like Dr Taylor and Mr Keane and maybe others what had gone wrong in Adam's case?

A. The first thing I would like to say is that I had not seen the first letter, to my knowledge, that was put up on the screen. I have seen this letter and when I received this letter, it was the first time I knew that there was a litigation procedure taking place. That was the first I knew of it, after it had been settled.

THE CHAIRMAN: Okay.

A. In terms of whether I am aware of differences between clinicians, what I have always said is that I believe that Adam Strain -- in fact, I think a better way to put is that I have stated that I accepted the findings of the coroner's inquest. I know that at least one of other clinicians has had difficulty accepting that in the past and I suspect that is the difference that this letter refers to.

THE CHAIRMAN: Let me go back before that. When you say you accept the findings of the inquest, is that because that's what you expected the findings to be going into the inquest?

A. Yes.

THE CHAIRMAN: And when you attended the autopsy conducted by Dr Armour -- I think you said a few minutes ago to me that you were there and you gave the very specific and personal reasons for being there -- but you said that you confirmed from your presence that it was cerebral oedema.

A. Yes.

THE CHAIRMAN: I'm inferring from that, and correct me if I'm wrong, that it was cerebral oedema due to him receiving excessive fluid at a vast rate.

A. What the coroner said was due to dilutional hyponatraemia, which amounts to the same thing.

THE CHAIRMAN: And that's what you had understood from the autopsy, so the inquest confirmed it. To put it another way: you would have been surprised if the inquest came to any different finding?

A. I would, and I felt that the inquest was the time to clearly determine the cause of death in Adam. I thought that was the responsibility of a coroner's inquest and I agreed with the findings.

THE CHAIRMAN: When you said "one clinician" -- let's be blunt. This might be a bit uncomfortable, professor, and I'm sorry, but that's the way it is. When you say one clinician had difficulty in accepting the finding of the inquiry, you're referring to Dr Taylor?

A. Yes.

THE CHAIRMAN: To your knowledge, did Mr Keane have any difficulty in accepting the finding of the inquest?

A. Not to my knowledge.

THE CHAIRMAN: Do you know of any other person involved who had difficulty in accepting the finding?

A. No.

THE CHAIRMAN: Ms Anyadike-Danes, do you have anything further?

MS ANYADIKE-DANES: Sorry, I have just called for a particular file. I just wanted one minute to look at a certain document. Just while the professor was speaking, I called for a particular file.

If it becomes relevant, I will raise it at some other time.

THE CHAIRMAN: Thank you very much.

Is that the end of your questioning?

MS ANYADIKE-DANES: It is.

THE CHAIRMAN: Thank you very much. We nearly kept our promise, professor.

It's 3.45. We'll break now for 15 minutes. During that time, I'd be grateful if the various counsel would liaise about how much questioning remains for the professor. I will resume again at 4 o'clock. If I can possibly complete the professor's evidence today and release him from the witness box, I will be delighted to do that. And if you are capable of doing it, professor, I'm content to sit on until about 5 o'clock if that will get us concluded. Because I would like, if at all possible, to start with Dr Taylor tomorrow morning. If that is impossible, then we'll resume with the professor tomorrow morning and then move on to Dr Taylor.

Thank you very much.

(3.45 pm)

(A short break)

(4.00 pm)

(Delay in proceedings)

(4.11 pm)

THE CHAIRMAN: Professor, I'm about to say to you something which is almost certainly unreliable. The lawyers here have indicated that they're not going to take very long to ask you some more questions. I think most of them have indicated that they don't actually have any questions for you, but there are some questions on behalf of Adam's mother from Mr Hunter. Would you like

to start?

Questions from MR HUNTER

MR HUNTER: Thank you, Mr Chairman.

First of all, professor, on behalf of Adam's mother, Debra, she has asked me to state here that she does thank you for all of the care that you gave to Adam up until the time of his transplant operation. She wants to make that very clear.

I want to ask you a few very short questions about some matters. The first matter I want to deal with -- counsel to the inquiry has largely dealt with it, but it's the issue of developmental delay in children with renal failure and the issues of the problems with speech and eating and so on that have been covered by counsel and you have answered those questions. There's one more I would like to put to you in that regard.

Professor Kirkham has referred to Adam having a limp and she has taken that and put that into her theory of what she says is one part of the reason why Adam died. Debra says that Adam did not have a limp. He may have fallen on some occasion and may have had a limp for a little while, but throughout his life he did not have a limp. You knew Adam his whole life, can I ask you the very simple question: did Adam have a limp?

A. I have no memory whatsoever of Adam ever having a limp.

I also believe that although Adam was slightly delayed in his speech and so on, that if he'd had a successful transplant, that he would have recovered from that. He was a very bright little boy.

Q. Indeed, and I'm sure you've looked at Dr Coulthard's -- sorry, it's not Dr Coulthard's report, I can tell you may not have heard it, but there was the experts' meeting, which happened in Newcastle. At that meeting, Dr Coulthard -- again was very clear on these sort of problems, that these children in renal failure have these sorts of problems. In fact, he was saying it would be actually quite unusual if they didn't have some of these problems to some degree, that is problems with their speech, eating and so on. I take it you would agree with that?

A. I agree completely, yes. I did say that to counsel when she asked me earlier.

Q. If I said to you that when the family saw Professor Kirkham's report initially, it caused untold distress to Debra, could you understand that?

A. I certainly can. I have made the same comment to friends myself.

Q. Thank you, professor. I move on.

From the moment you were called back to the hospital and, I think, right up until today, would be I right in

saying that your view is quite clearly that the cause -- why we are all here today is, basically, Adam ended up being fluid overloaded?

A. Yes.

Q. And that the cause of his death is, as was stated in the autopsy report, as in the coroner's findings, that he died from cerebral oedema due to dilutional hyponatraemia?

A. Yes.

Q. And you have never had a doubt about that?

A. No.

Q. Would that be fair to say?

A. That's true.

Q. So then really, I don't need to put what each of the individual experts say because certainly Dr Coulthard, Dr Haynes, Professor Gross, take that line. And you would obviously agree with their conclusions, I take it?

A. Yes.

Q. Finally, professor, would it be fair to say that -- you have mentioned this in your evidence earlier -- I think yesterday. Were you the first paediatric nephrologist in Northern Ireland?

A. Yes.

Q. And really the establishment of the service has been down to yourself?

A. Yes.
Q. And that grew from a fledgling service. And would be it fair to say that with any fledgling service there are hiccups? There's going to be problems?
A. Yes.
Q. And there's going to be mistakes?
A. Unfortunately.
Q. Yes. Those mistakes are made and the service learns from those mistakes. But of course, when mistakes are made and it is your child, that's very difficult, and I'm sure you can understand where Debra is on that. It's obviously very, very difficult for her to live with all of this.
A. I completely understand where Debra stands and comes from. After Adam died, I did spend a considerable length of time with her, trying to help her to get through those terrible days.
Q. But you would accept that mistakes were made?
A. Yes.
Q. And lessons hopefully are being learned?
A. Yes.
MR HUNTER: Thank you very much, professor.
THE CHAIRMAN: Thank you, Mr Hunter.
Mr McAlinden, no questions from the trust, as I understand and between the individual parties.

Mr Millar, do you have some point?

MR MILLAR: One question to ask, sir.

THE CHAIRMAN: Okay.

Questions from MR MILLAR

MR MILLAR: Dr Savage, you may know I represent Mr Keane, who was the surgeon and who was obviously present throughout the period of time in the operating theatre when Adam was having his transplant surgery. And I think your evidence has been that throughout the period up until about 9 or 9.30 that you were in and out from time to time.

A. Yes.

Q. And I wonder if the people up above could bring up -- I think it's Dr Haynes' second statement, page 204-004-161. Perhaps if the final sentence on that page could be highlighted, you'll see, Dr Savage, that Dr Haynes states:

"I get the impression that everything was hurried, that tensions had developed between the surgeon and anaesthetist, and that there was not adequate dialogue between those involved."

Now, leaving aside Dr Haynes' perceptions for a moment and turning to the facts, Dr Savage, based on your visits to the operating theatre that morning, did you detect any tension?

A. None whatsoever.
Q. Did you form any impression whatsoever that anything was being rushed or hurried?
A. No.
Q. You may or may not have heard anything that was being said between the surgeons and the anaesthetists, but in general terms, Dr Savage, was there anything about the position in that operating theatre that morning that struck you as being in any way unusual or abnormal?
A. No. When I read the statement from Dr Haynes, I thought it was ridiculous.
Q. You don't recognise that in any shape or form --
A. No.
Q. -- as being the position in the operating theatre that morning?
A. No.
MR UBEROI: No questions on behalf of Dr Taylor, thank you.

Questions from MR CAMPBELL

MR CAMPBELL: I have a few short matters on behalf of Nurse Murphy. Professor Savage, a number of issues that I would like to raise with you, the first of which I would categorise under the description "clear fluids". The admission notes make reference to that substance which was being fed to Adam through the gastrostomy tube and the nursing expert who has reported to the tribunal

has described the use of that non-specific phrase "clear fluids" as an omission in record keeping. However, I note from your own statement to the tribunal, and indeed your oral evidence yesterday and today, that "clear fluids" is a phrase that you used yourself on a routine basis.

A. Yes.

Q. It was perfectly proper for Nurse Murphy to make such an entry in 1995, was it not?

A. I think so, yes. I think that the nursing expert does go on to say that "clear fluids" mean any fluid through which you can read print. So it's a very non-specific --

Q. Yes, but in the context of 1995, in the Musgrave Ward, being entered in that form in that context, anyone reading the form would have known exactly what it meant?

A. Yes, I think so.

THE CHAIRMAN: Would it be any different today, as a matter of interest?

A. I think today we would probably write "Dioralyte".

THE CHAIRMAN: But that's not a major change?

A. No, I don't think so.

THE CHAIRMAN: Okay.

MR CAMPBELL: The next issue is that of urine output and whether or not it should have been measured. You will

see from the records completed by Nurse Murphy that in one of the columns there's reference to "PU" and "NPU", which of course means --

A. "Passed urine" and "not passed urine".

Q. And that was the extent of the entry in that form?

A. Yes.

Q. You were asked this morning -- I think one of the first questions was: was it your position that nurses were required to carefully monitor if they are passing urine, the "if" referring to the patients. Of course, that entry, the "PU" or "NPU" covers that issue; isn't that correct?

A. That sort of entry indicates that he is passing urine. It doesn't, obviously, measure the urine, but I don't think on that particular night, for that short length of time, that I had told Nurse Murphy that I wanted his urine measured accurately on that evening.

Q. You've made reference in your evidence today to once upon a time there had been a practice with Adam to measure the sodium in his urine.

A. Yes.

Q. How was that carried out?

A. A sample of his urine would have been sent to the laboratory.

Q. Not by catheter, simply by sample taking?

A. I think most of them probably were when he did have a catheter in because he wasn't the sort of child who could pass urine if you asked him to.

Q. But your evidence at this stage, after much reflection on all of the aspects of this case, is that on that particular night you had not given a direction requiring that the output of urine be measured?

A. I don't remember that I had given that instruction, no.

Q. And Nurse Murphy's recollection is that she was given no such direction that night. I think in fairness, for a complete answer from you, professor, I should alert you to the fact in your statement, 002/3 at page 38 -- perhaps that could be brought up. You suggested that, at, I think, the fourth paragraph:

"I would have directed that Adam's fluid balance would have been carefully recorded in terms of both input and output and a fluid balance chart during the 26th and 27th, this would have been standard nursing practice. His urine output would therefore have been measured, if possible, and his weight both pre and post dialysis recorded."

The point that I would like to alert your attention to is:

"I do not know the identity after this time of the nurse responsible for looking after Adam that evening."

A. I do now.
Q. We know that Nurse Murphy was responsible for his admission. It's fair to say, however, that in 1995 she would not have been the most senior of the nurses on the Musgrave Ward; isn't that correct?
A. I don't know who else was on duty that evening.
Q. Her estimation would be that she was perhaps one of four. Does that sound reasonable?
A. It sounds reasonable, yes. You'll see I've said that his urine output would therefore have been measured if possible, and I have said that that was quite difficult with Adam because --
Q. Given the timescales involved that night?
A. No, because he wore nappies.
Q. Another aspect that Miss Ramsay has made critical comment about is the regular daily medication which was noted in the admission record.
A. Yes.
Q. Which was recorded on the form. And Miss Ramsay was critical of the nursing staff, namely Nurse Murphy, for not having alerted the doctor to the need to consider prescription of that medication. Is that a matter that you think would have been proper for Nurse Murphy to have done, to prompt clinical action from the medical staff?

A. Well, I think it's irrelevant because he didn't get medication during the night. And he was only there from 10 o'clock at night and went to theatre at 7 in the morning, so there would have been no drugs that he was regularly prescribed. We don't usually give children medicine in the middle of the night. So there would have been no reason for him to have drugs prescribed.

The next day, he was going to be in intensive care and probably not able to take any oral medication, and anything he got would have been written up on an intensive care prescription sheet. So I don't think there was any necessity to complete a prescription sheet that night in that he was not due to receive any medicines.

THE CHAIRMAN: So there may be times when you would expect a nurse to prompt a doctor about drug prescription, but this was not one of them?

A. No.

THE CHAIRMAN: Okay.

MR CAMPBELL: During her seven years in Musgrave Ward, was Nurse Murphy a nurse across whose contact you came often?

A. Yes.

Q. And did you regard her as a nurse who implemented medical instructions correctly?

A. Her nursing practice and skills were of the highest level. I had every confidence in Catherine Murphy.

MR CAMPBELL: Thank you.

THE CHAIRMAN: Mr Fortune, do you have any questions?

MR FORTUNE: No, sir, thank you.

THE CHAIRMAN: Okay. I think, professor, in the absence of any other questions, as you finish, you have given evidence for the last two days and I'm very grateful for that. Is there anything more you want to say before you leave the witness box?

A. I think the only thing I would like to say is that I'm very concerned by the reporting of these proceedings and its effect on children who are currently on dialysis and awaiting transplants. If there are people from the press here, I hope they will make it clear that we have made considerable changes and advances in our management of children with chronic renal failure and that we do everything to make sure that their treatment is safe and that our care for them continues to be of the highest standard and they are children that are close to every one of our hearts.

THE CHAIRMAN: Would you add to that the fact that before Adam's death, the success rate which you had in paediatric transplant was on a par with elsewhere in the United Kingdom?

A. Yes, and continues to be, yes. But I do have concerns about the effect of the hearings in causing worry to current patients and their families, and I don't know how we can mitigate that, but I'm sure Dr O'Connor will take steps to do so in the hospital context.

THE CHAIRMAN: Thank you very much. Thank you for your time, professor. If you want to sit back --

MS ANYADIKE-DANES: Formally for the record, right at the beginning, you were asked by the chairman if you were adopting all your previous statements and, for the record, I think it's probably helpful just to have them read in, if I could put it that way.

The first is your deposition to the coroner, which was of 21 June 1996, and the reference is 011/015. Then there is your first inquiry witness statement of 22 July 2005. The reference is 002/1. Then you have a PSNI witness statement of 8 May 2006, 093/006. There is a second inquiry witness statement of 14 April 2011, 002/2; a third inquiry witness statement of 28 September 2011, 002/3; a fourth inquiry witness statement of 28 September 2011, 002/4; and a fifth inquiry witness statement of 20 March of this year, 2012, and the reference for that is 002/5.

Thank you, Mr Chairman.

THE CHAIRMAN: Thank you, professor. Would you sit back for

a moment? Thank you.

Well, we'll resume tomorrow morning with Dr Taylor at 10 o'clock. Mr Uberoi, unless I hear anything before then, I will assume that Dr Taylor's starting position is the statement which he volunteered to the inquiry in February of this year.

MR UBEROI: Yes, precisely, sir.

THE CHAIRMAN: Thank you very much. 10 o'clock tomorrow morning.

(4.30 pm)

(The hearing adjourned until 10.00 am the following day)

I N D E X

PROFESSOR MAURICE SAVAGE (continued) 1

Questions from MS ANYADIKE-DANES 1
(continued)

Questions from MR HUNTER 173

Questions from MR MILLAR 177

Questions from MR CAMPBELL 178