Monday, 23 April 2012

(9.58 am)

THE CHAIRMAN: Ladies and gentlemen, just to say that I understand that some issues have arisen over the weekend which need to be discussed before this morning's hearing starts. I'm therefore going to allow some time for that to happen. I will review the position at 10.30, but you'll understand that I'm very anxious to get Mr Keane's evidence dealt with today. He's made himself available for today especially, having originally understood he would be giving evidence last week, and I can't allow the inquiry not to proceed this morning, but I will allow some little time at the start and we'll review the position at 10.30. Thank you.

(10.00 am)

(Adjournment)

(11.17 am)

THE CHAIRMAN: Ladies and gentlemen, I'm sorry for the delay. There were a number of things which came up over the weekend. What we'll do now is we'll sit until 12.45 -- so it's a hour and a half -- and then break at 12.45 -- from 12.45 to 1.45 -- and then we'll sit on to 4.30 this afternoon and we'll try and catch up a little bit on the time that we've lost this morning.

MR HUNTER: Mr Chairman, I'm grateful to you for allowing us

some time and I apologise to my colleagues for holding us up.

THE CHAIRMAN: I understand the circumstances. Thank you very much, Mr Hunter.

Ms Anyadike-Danes?

MS ANYADIKE-DANES: Good morning, everybody. I wonder if Mr Keane would please take the witness stand.

MR PATRICK KEANE (called)

Questions from MS ANYADIKE-DANES

MS ANYADIKE-DANES: Good morning, Mr Keane. Mr Keane, you very kindly provided a copy of your CV, which I think everybody has. It starts at reference 306-023-001. Do you have a copy there with you?

A. Yes, thank you.

Q. If we turn to the first page of it, we can see a summary of your clinical experience including your qualifications; is that right?

A. That's right.

Q. That has you doing your basic surgical training in Galway. Then you have a period of research fellowship in 1983 to 1986 when you were in Edmonton. What was the research fellowship that you were doing there?

A. The research fellowship was into gall bladder disease, but I think I should highlight the issue of the Temple Street job in relation to this case.

Q. Sorry, I'm having a little bit of difficulty hearing you.
A. I think I should highlight the issue of the Temple Street job in 1982 to 1983.
Q. Yes.
A. Later. Not now, but later.
Q. Now that you're at it ...
THE CHAIRMAN: I think we can deal with this most conveniently if you pick out any particular points in your CV that you want to emphasise and then Ms Anyadike-Danes can pick out any particular questions.
A. I think that may be easier. Basic surgical training as a junior registrar, junior SHO, you do an examination, you study fluid electrolytes and you get what is known as your FRCS, you become a fellow. You're entitled to then call yourself "Mr". You on go in training and you go on to gain broad experience and then specialist experience in that system and I went to a children's hospital to work in paediatric surgery, which I think is of relevance to Adam. And all of the operations that you've listed in this inquiry, I had done many times in different children in Dublin: the complications of it, the wee operations of it, I have done.
Q. Can we pause there? What do you mean by "all the operations", you mean all of those in Adam's surgical

procedure?

A. The transuretero-ureterostomy, the drainages, et cetera. The most important thing that I would like to emphasise is it wasn't about the technical surgery that I learned that's important; it was about the philosophy of paediatric surgery coming from an adult background to work there. The paediatric surgeons I worked with had a particular issue that is not in adult surgery about the care, the surgical care, of the patient in an operating theatre. They took extreme care about the babies. They would wrap them in cotton wool, little things even like lying in a nappy -- they would tell you to check the nappy, not the front of the nappy, but make sure that the child was not on a crease in the nappy that would hurt his skin. Things like how you put on antiseptic in an adult, you wet everywhere; in a child you'd be forced to consider the fact that the child should not be allowed to get wet. Little detail that's incredibly important and different, but the most important thing you learn in paediatric surgery is the principle that, essentially, this is a child and you need to fight for every single blood cell that you're going to lose when you're about to do surgery. It is the principle of teaching you to be meticulously careful because they're such small precious children and that's

what I learned there.

If you go on from 1983 to 1986, that is what is -- used to be known as your middle grade period when you did general surgery and learned the techniques that Adam might require, whether it be a complication, bowel surgery, bleeding, trauma, all this sort of thing. They gave you the experience and techniques to deal with any emergency that might arise that wasn't strictly related to a transplant, but say I had injured Adam's bowel, this is the period of time where I learned how to deal with that complication.

Then if you look at my career, from that type of training to specialist training and went to the Hammersmith Hospital, which is also known as the Royal Postgraduate Medical School in London, and one year of that period I spent in London was at the Institute of Urology, which is the -- was at the time the premier, if you like, postgraduate training centre for urologists. Urology is a very small speciality, but virtually everyone was encouraged to attend the institute, as it was known, so that we all knew each other and we all had the experience of going through that type of training.

At that stage, in the old system, I was quite old if you like and then I got a senior registrar post in Belfast because I wanted to return to the island. There

was nothing available really down south and I spent four years and became a consultant, four years after that training. The period of time from 1986, I did transplantation in the Hammersmith Hospital which had a world reputation for transplantation and nephrology and came over to Belfast in which they did transplantation here in the same way that we did it in the Hammersmith and became a consultant urologist continuing the practice of being a urologist as well as a surgeon who did transplantation. I think it's a very important distinction. I was not what is known as a pure transplant surgeon, like the experts involved in this inquiry; I was an adult urologist who had the skills to transplant in my mind and take care of patients in partnership with nephrology, adult or paediatric.

Q. Thank you. You may have said it, but it was a time when I was a bit of difficulty hearing you. Did you explain what you did during your research fellowship at Edmonton?

A. In that time, these CVs as you look at them, would not be the way it's done now. It was very competitive, few jobs. If you look at surgery, the way it's expanded over the last few years, if you look at the time I was training, this was a seriously competitive thing to be

in. So everybody in that period of time would have gone to study academic research, how you do it. It didn't particularly matter what you did or whether you produced a Nobel Prize, what it did for you is allow you the capacity, I suppose, to critically analyse the papers that we're going to review later in this, and I was formally trained in statistical methods, how these decisions are made, what the weight behind a paper which says you should do this, you should do that -- I could give a trained personal -- maybe not the correct opinion on that -- but I had the skills from what I learned in research to look at these papers in a scientific manner. That's what it gave me.

Q. Yes. A useful skill, but what was the actual research you --

A. The research was into gall bladder and motility, in effect. What research in general is basically, mainly animal research, and what the purpose of this was to study gall bladders. Even though they were diseased, and had been taken out at the linked hospital, what I would do is go over to that hospital, retrieve the gall bladder specimen, take it over to the laboratory that I was working in, keep it alive with perfusion fluid, and perfuse it with hormones to look at how the gall bladder was working because, with respect, gall

bladder disease is a female disease more than a male disease, and it was the effect of female hormones on the contractility of the gall bladder. So if you look at what I was doing, the clinical problem presented was females in their 40s tended to have more -- a greater incidence of gallstones than those males. The idea being that because they had oestrogen, that it caused their gall bladders to be sluggish because we knew in pregnancy that gall bladders become floppy as you image them. Even though this is very exotic, the idea was to look at what the effect of bathing a gall bladder stripped from a man in female hormones would do to the way it was contracting.

Q. So it was quite a specific area of research?

A. Very, very specific.

Q. And apart from the techniques that you have you might have learned, analytical techniques and statistical methodology, nothing that particularly assisted you with Adam's case on the clinical side?

A. Yes, on the clinical side, as distinct from --

Q. Yes.

A. Yes.

Q. Thank you. So then that -- if we come down to your appointment as a consultant, that has you as a consultant the year before you were involved in Adam's

surgery; is that right?

A. Yes. I think it's important just to realise the system that I've described to you was very prolonged and what has happened in the Blair expansion of the NHS is they wanted to get what was regarded as being an incredibly long time to produce a consultant down to a more reasonable time. So you can check this out. When I came out in 1994, on average, I had 70,000 hours on average. A person like me working in the National Health Service in surgical services as distinct from somebody coming out calling himself a consultant nowadays, 2012, where the average hour in surgery was something in the order of just under 19,000 hours.

So although I am a consultant, as you would appreciate of equal status to a young consultant coming out in 2012, there is a vast gap in the old system of experience, if you like, or work compared to somebody coming out in 2012. So although I know my experience in paediatrics is an issue, my experience in surgery was vast compared to the new system, if you like.

Q. I understand.

A. Thank you.

Q. As we now move through your CV, you deal with your management and service development.

A. Yes.

Q. And that you were lead clinician --
A. Yes.
Q. -- in urology for six years.
A. Yes.
Q. Can I ask what that means? We know from the papers that we've received and also the evidence of Professor Savage that there was a link between the surgeons in the Belfast City Hospital, who were basically urologists like yourself, and the Children's Hospital because it was those surgeons who initially were the surgeons who were providing the transplants, the surgical expertise for the paediatric transplants in the Children's Hospital. So we know that there was that link. And this is you as a lead clinician in urology starting off about two years after Adam's case and I wonder if you had that kind of management experience -- whether you were involved at all as to the assistance with the development of the paediatric renal transplant service in the Children's Hospital. Did you have any role in that at all?
A. Well, I had a role, but I wouldn't -- didn't have any management. If you are asking me: did I have a designated management role, then no.
Q. No, not necessarily, but if you did have a role, it would be helpful to have. We know at one point they

were all being done at the Belfast City Hospital and then a decision was taken: okay, for the smaller children, let's move them off to the Children's Hospital and develop the paediatric specialism, if I can put it that way.

A. If I can explain it in other terms as is relevant to Belfast today. The Belfast Trust incorporates the City, the Royal, the Children's Hospital, it's all one. Belfast in 1995 was the Mater, Belfast City, the Royal Victoria. I'm not sure what the arrangements in management terms were at the Sick Children's, to be honest. It probably was the Royal group. But essentially, each of these units ran themselves as independent managed structures. On the other hand, from a human level, we knew what Dr Savage was doing. He was working as you heard, every day of the week. And the NHS is not a static organ. What I took him to say was he was developing a service. But he obviously needed help. There were very, very good surgeons at the Royal Belfast Hospital for Sick Children, but if you get back to this concept of being a pure specialist as opposed to a general surgeon with an interest, I, in this system, fitted in as a new consultant urologist, pure adult, but with a lot of knowledge, I hope, as distinct from the paediatric surgeons who were general, very interested in

urology and kids and there was obviously going to be a liaison between us.

Belfast is a small place, we all knew each other and we were all, I have to say -- had the best interests of the children at heart. We weren't trying to develop a service out of nowhere -- we were trying to do it gradually, slowly and find our feet and develop a proper service.

It's difficult to explain that because it's not a unitary structure. You could have said: you're from the Belfast City Hospital, but I never regarded myself, at that time, as being prohibited by my contract from going to the Royal Belfast --

Q. You actually had an honorary contract --

A. I made sure that I had, but I wouldn't have felt anyway -- and nobody did ... If somebody rang me from the Royal Victoria hospital to say somebody had, for instance, cut a ureter, the system didn't say: look, you're working at the City Hospital, you now have to go down to a legal department, get an honorary contract to work at the Royal and there you go. That kind of thinking was not apparent. You just went to a problem. But because I was looking at, perhaps, a long-term -- this issue will come up. I was looking at, perhaps, being -- committing myself to a long-term plan to help

Dr Savage, as best I could, to develop a service.

I thought it would be appropriate if this -- I don't know what it would mean legally, to be honest with you, that you would get an honorary contract. Something that said: actually, if you appeared in the sick Children's Hospital in the middle of the night, nobody --

THE CHAIRMAN: Nobody's going to put you out?

A. Well, yes. Yes.

MS ANYADIKE-DANES: Well, you did have one. The reference is 006/2 at page 2, and it's in answer to the question at 1(a), and the question is about:

"Describe your work commitments to the Royal Belfast Hospital for Sick Children from the date of your appointment as a consultant and, particularly, over the relevant period, 26 to 28 November."

And you clearly say that:

"[You] had an honorary contract at the Children's Hospital and [you] had close working relationships with the surgeons there and [you] were involved in setting up the Stone Service for children, and the continuing care through adolescence of the paediatric urological population."

And with reference to transplantation:

"I was involved in teaching the surgeons at the Children's Hospital how to perform the procedure, hence

Mr Brown's involvement."

And that you lectured there.

We're going to get into Mr Brown's involvement in a little while, but when did you have that honorary contract with the children's hospital? Do you know?

A. Absolutely no idea. At that time?

Q. Sorry, let me put it in a different way because that's a bit of an unfair way to put it. How close was it to when you were appointed a consultant?

A. Well, all right. Let's say I -- you see, I wasn't unknown to the Royal Belfast.

Q. I'm sure.

A. Because I had worked there and assisted in and transplanted, if you like, as a senior registrar.

Q. I understand that.

A. But the concept was that now I'm a consultant, I should -- I'm not a trainee, I'm not a trainee any more, therefore I'm an independent person, I should look at it. Because you never know in these things, there may become an issue, and as Professor Savage has told you, this was a developing service and there were issues. We all knew each other terribly well.

Mr Boston is a very good friend of mine, a very, very good surgeon, he was wondering -- and I think Stephen was -- I'm not sure how interested Stephen was

in the long-term because he was a little -- he may have been coming up towards a period of his career where he wouldn't commit to a project. But Victor Boston, particularly -- because I know I have done a transplant with him -- supervised him, if you like, or taught him how to do it, he was exploring the idea in his head: could this service that the nephrologist was interested in, could it be provided by, not an adult surgeon from over there, but potentially could it be provided for the children by the actual surgeons? And what he wanted in that case was, properly, for me to come over, see how he would perform this procedure with the full knowledge that if he had a difficulty, which I have to say I would never -- Victor Boston was a fantastic surgeon. And we did it together and I showed him this so he could actually get a feel for: what is this possible commitment that I'm about to make here that I, as a paediatric surgeon, will get involved in transplantation?

I'm not --

Q. Can I help in this way? I don't mean to cut you off. Is what you're really saying that there was a sort of project, formal or informal, to see the extent to which the paediatric renal transplant service could be developed in the Children's Hospital with the consultant

paediatric surgeons there gaining the necessary skills and experience to conduct transplants? So at some point in time the surgeons would be supplied, if I can put it that way, by the Children's Hospital and not those coming over from the Belfast City Hospital who were really -- their main role is dealing with adults. Is that the project?

A. That's the project. That was Victor Boston having a very, if you like, a look at this from his own professional point of view. With me -- he wouldn't have done this surgery. Do you get a feel for this operation or not? And would he then commit himself, say, to -- Victor in that, would he commit himself say to taking himself off as a sabbatical or a paid leave to a -- say Mr Koffman in Guy's, and say: look, I'm a very experienced surgeon, I've come over to you, Mr Koffman, to teach me how to do this for six months so that I can become competent to do it.

When you say "a project", it was discussion, talking. Maurice Savage, Victor Boston, Stephen Brown, everybody, we all talked to each other and we had these .... It wasn't a formal commitment.

Q. No, no, no. I didn't mean to suggest it in that way, but I just gave it a term so there was certainly some sort of endeavour --

A. Endeavour, yes.
Q. -- maybe that is a better word for it -- in all that discussion. I presume that meant you were really discussing how the paediatric renal transplant service might look.
A. Correct.
Q. And the issues that would involved and what would have to happen for it to be, effectively, a stand-alone service?
A. That's the precise description of what we were doing.
Q. Thank you. Okay. Thank you for that.
Then can I just ask you a little bit about your publications?
THE CHAIRMAN: Sorry, could I just interrupt for one second? It wasn't, in 1995, a stand-alone service?
A. Oh no.
THE CHAIRMAN: Just from thinking ahead, is it now a stand-alone service?
A. As I understand it and, because of Adam, I ... It's done by the adult transplanters in the City, but only one. I don't mean -- you would have to consider yourself as a surgeon in something like this.
Do you have the competence? Not so much the experience, but do you have the set of skills that you yourself personally take responsibility for to say, "I am

competent to do that operation", or no. Nobody could force you. There are three adult transplanters at the City and only one, as I understand it, does the children.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Thank you very much. If you can go to your publications, and just to give the reference for it, it starts at 306-023-006. You have already explained that you had done most if not all, probably all, I think you said, of the surgical procedures --

A. Yes.

Q. -- that Adam underwent and are identified in that schedule of his surgical procedures.

A. Yes.

Q. You'd carried them all out yourself at some point or other?

A. Well, to make it plain, I'm a pure -- I regard myself in these terms as a pure urologist. That's what I do. And transuretero-ureterostomy, the main procedure and the drainage of a ureter is, to a pure urologist, what you do.

THE CHAIRMAN: Is that your bread and butter?

A. I couldn't put it better.

MS ANYADIKE-DANES: I was going to come down to the extent to which you carried out those procedures on children.

A. Well, on children, the Temple Street -- the vesicoureteral reflux, the re-implantation operation, was, in 1980, the commonest major urological procedure in children. Urological conditions in children account for 40 per cent of the workload. So you would have a child having a re-implantation of his ureter or some form of variation of it, the transuretero-ureterostomy, once a week minimum. It was just -- that is urology: vesicoureteric reflux, reimplantation is paediatric urology.

My function in terms of going to the Royal Victoria, saying that, I can remember a case -- let me put it this way. I know that Mr Brown had a case of exstrophy, a very complicated -- to give you another flavour for this -- a very complicated urological condition, maybe one a year, two a year here, and he had had operations and there was a problem. I can't specify it.

I think it's Stephen -- I don't know, maybe one of the others -- they would ring me and say, "What do you think?", I had come from London and worked with Professor Mundy who's the world expert in that disease. I got the child sent over to London for him to give me an opinion as to what to do. He wrote back to me and said, "Patrick, I've seen it, I think you should do this". And then I did that operation, which I felt

I was competent to do with a paediatric surgeon because obviously it's -- and this is relevant to Adam.

You see the need for the protection of Adam. There had to be -- because I was going to go away at some stage -- whether the controversial area we're going to talk about ... I would go away some time. What was he going to do for senior surgical -- not urological or transplant -- senior surgical protection, if you like? It was to have the certainty that the paediatric surgeons in the Royal Belfast hospital knew there was a transplant and knew that an adult urologist would leave the child, but that they would be -- they would provide the surgical cover if there was an emergency.

In other words, it was a kind of reciprocal thing. We were helping them and, in order to help Dr Savage do what he had to do, and to protect a child in terms of cover, they would help us. So it was all a matrix of interaction. Complicated to describe. But the particular point is that Adam -- although it may not be protocolised, it is in the protocol, you see from the surgical point of view the thing to say was: provide a competent surgeon, not necessarily so experienced. Competent.

Q. We're probably going to get on to that, Mr Keane. I think we're going to get on to that. I was actually

still on your CV. What I was trying to see if you could help us with is whether, when you had said that you had done all those procedures, and I was then exploring with you the extent to which you had done them on children, small children. And I think the upshot of all that was you had had a busy year doing that sort of thing in 1982. Then you had seen some of it or had developed connections, if I can put it that way, within the Hammersmith Hospital. To what extent did you work with children at the Hammersmith Hospital?

A. I had been reading all of the issues in this and the definition of what is paediatric is, as a term --

Q. Let me help you. To what extent did you work with small children of Adam's sort of age at the Hammersmith Hospital?

A. No.

Q. And I presume you did, though, when you were acting as the registrar in paediatric surgery in Temple Street.

A. Yes.

Q. Other than what you may have done on transplant surgeries prior to Adam, your last experience before Adam really dates back to 1982; is that the upshot of it?

A. Absolutely correct, yes.

Q. Thank you. If we go to your publications. Is there

anything in those publications that bears on either the surgical techniques with small children -- by "small children", I mean not just Adam's age, but Adam's size: he was not quite five and he was 20 kilos and I think he was 103 centimetres long, to be precise. That size. Does any of that publication bear on that?

A. No, you'd want to be a paediatric -- 20 kilogram? No, the answer is no.

Q. It's not a criticism, it's just a plea for information. Does any of it bear on that?

A. No.

Q. Just so that we're fair about it, is any of it directly relevant to any of the issues that were involved in Adam's case?

A. Could you define "issues"?

Q. Any of the surgical issues, directly relevant to any of the surgical issues?

A. I had written a book chapter on transplantation.

Q. We're going to come to that. Apart from that?

A. No.

Q. Just because I'm sure I'm going to be asked to ask you, so I will pre-empt it and ask you now: when you were engaged in that sort of endeavour, the view as to how the paediatric renal transplant service might be developed and that part of that would involve you coming

over and training people in paediatric renal transplants. At time that was happening, you yourself would have done, what, four? A couple maybe in 1993; one on the 17th or whenever it was in November 1995 --

A. Well, can I just make a -- I didn't commit myself to training.

Q. Sorry.

A. The point was that --

Q. They would watch you?

A. They would get a feel. The transplant that Mr Boston did with me was a completely uncomplicated, no previous operations, child. And we did it together. Not just -- just to make that clear. I had no intention of training a full ... The training would have to be the decision having had a look at and getting a feel for what was involved, whether a consultant transplant surgeon or a consultant paediatric surgeon would go away or you could look at it another way. If they had a trainee, once they had decided what was involved and got a feel for the totality of the experience, would they then sponsor a junior surgeon and say to him,"Look, we have this service here, there's going to be development. The way this is going is that transplantation is going to evolve into a speciality, a pure speciality of it is own, that's not the way it is now. But here you are,

you're a young person, here's an opportunity that you ought to have a look at, would you go away to Mr Koffman, spend a few years and come back while we hold the line here as best we can to the best of our ability, taking very serious decisions seriously about which children to transplant and how to do this while you go to Mr Koffman to learn?".

Q. I understand. Was Mr Boston the only person you'd done that with apart from when Mr Brown became involved?

A. Mr Boston was the only one.

Q. If we go into that, when you're doing that, you're giving people a sense of what this operation is about. And then they can see whether that's either how they would like to develop their career or whether they know a junior doctor who might be interested in that and could be encouraged and so on. So you're trying to give them a sense of how this operation proceeds and what it's all about.

A. Yes.

Q. When you conduct an operation like that -- and I appreciate you only did two like that -- but the plan when you did that: how are you conveying the sense of the operation? Are you talking them through it, what you're doing, that sort of thing?

A. Well, pre-empting an issue. Let's say you were the --

the sizing of a kidney related to an artery. You would explain to them your philosophy and how you looked at the literature available as to how this decision is made, not trying to teach Victor Boston how to tie a knot. How is that decision made? How is the decision -- there are maybe 50 ways of putting a ureter into a bladder in adults and children, but there are issues about how you do it and a child would differ: here is how I do it; you do it as I tell you.

Q. I understand.

A. And why would you choose an external iliac artery as distinct from choosing a common iliac artery to do this? And I assume I'm going to go through this in greater detail with you.

Q. Yes.

A. So he would say, "Look, I'm an experienced surgeon, I can see this. Does the Royal Belfast Hospital for Sick Children now have the capacity, the future capacity, the potential, somebody that they could send off, train him as a transplant surgeon and let the add-on surgeons go home?"

Q. I've understood the philosophy point. Just finally on this issue, you may have already answered it. It's not simply a matter of you going in and doing it, what you're trying to do is convey something?

A. Yes.
Q. So there's a bit of explanation and talking through what you're doing, your approach, why you're doing it like that, particularly when there are areas of judgment as to whether you do it this way or that way. So you get a feel for the experience. Would that be a correct characterisation of it?
A. Yes. I can give you another example of it if you wish.
Q. Unless you think I haven't properly characterised it. Is that the sense of it?
A. That's the sense of it.
Q. Thank you very much indeed. I think you have said that you dealt with five children who were aged less than 6 years old, who had severe hyponatraemia like Adam. And I think that comes out of your witness statement 006/3, question 26. But what I'm going to ask you is -- we don't have to pull it up -- I just simply want to ask you: what lessons did you learn about dealing with young children with severe hyponatraemia? As you know, that's obviously an issue in this case. What did you take from that experience when you dealt with them?
A. My experience was that this issue was a lethal --
Q. Sorry?
A. This issue, hyponatraemia, was a lethal condition -- very, very dangerous -- but the main lesson that

I learned on hyponatraemia was that you could do as much damage in mismanaging the attempts to retrieve it. In other words, if a children's brain swells and it's surviving, trying to panic and get the brain swelling down, in other words [demonstrates audibly] is as dangerous -- do you see what I mean? That was the lesson. And also, I learned that precision in surgical principle, the concept of fluid management as a surgeon would look at all of this issue. It's the following ...

And I think that this is where personally the issue is. You look at fluid management in this way: you require maintenance to keep you alive. In other words, just maintenance. It's done differently in adults, but absolutely across the world they follow this Holliday-Segar thing with Solution No. 18 as maintenance. There's a reference I gave to -- Sumner did it as well. So maintenance fluid as against deficit. The concept is very simple and here I think is the crux of this problem.

Deficit must be replaced with fluids like normal saline, and Adam had his deficit replaced with Solution No. 18. So if you look at Adam, it's four hours of surgery, 300 ml. That's all the Solution No. 18 he should ever have received in that operation. He got 1,500, therefore he had an excess of Solution No. 18 of

1,200. Four fifths of that is 800 and you could calculate that on the back of an envelope, as I was trained, had I known what was going on. We'll deal with it later. So that's what I learned, you look at these -- surgically, you look at maintenance, deficit. Maintenance in 1995, Solution No. 18. Maintenance only.

Q. It's very helpful that you raise it now at the outset, apart from anything else because I asked you the question. When you say that's what you learned surgically, does that mean the whole notion of fluid management, the dangers of hyponatraemia and the development of dilutional hyponatraemia, that was something that was familiar to you in 1995?

A. As I was taught in Dublin.

THE CHAIRMAN: In the early 80s?

A. Yes.

MS ANYADIKE-DANES: As a surgeon, that was very familiar to you?

A. Yes.

Q. And you didn't need to know or read about Arieff's article to know that?

A. I would love to have read Arieff's article. I get the point. I knew that -- that is how I learned basic surgical fluid management.

Q. I understand. I'm not asking you to be defensive about

it.

A. Sorry.

Q. You have said that you weren't aware of Arieff's article at the time of Adam's surgery.

A. No.

Q. I understand that. What I'm putting to you is the way you've just described things, am I understanding you that you didn't actually need to read Arieff's article for you to have an appreciation of the risks and dangers involved in overloading a child with dilute solutions?

A. No. I didn't understand -- I couldn't say that I understood the point of Arieff's paper that it could happen so easily. I didn't understand that point, which is what I found extremely useful. I wouldn't have said that there was a risk of it in a patient undergoing a tonsillectomy. I wasn't aware of that. But I knew the -- I knew what he was saying, but not the point of the paper, which, as I understand the point of the paper, is you ...

Q. If somebody had told you the volume and rate of administration of fluids that Adam actually got, what would have been your view? In terms of the likely outcome for him.

A. Um ... No chance.

Q. Sorry? No chance?

A. No chance.
Q. Because we're in this sort of period of discussing things before we actually go into chronologically what happened. But I'm just trying to get your sense of what you knew at the time. When did you first know that Adam had received the fluids that he had actually received?
A. I went over to the Royal to speak to Mrs Strain the morning of -- the morning afterwards, but she was involved in a donation thing, which I felt wouldn't be the right thing --
Q. You'll have to speak into the microphone a little bit.
A. Sorry. She was involved in donation issues, which I felt would be inappropriate to interrupt. So I went then to find the notes to look to see because, obviously, when I first heard, the immediate reaction was that it was one of these oxygen problems, the tubing had been cut off or he wasn't getting oxygen. The idea that he would have had cerebral oedema never even occurred to me. I nearly fainted when I heard how he was. But I thought it's definitely an oxygen problem; do you know what I mean? That during the anaesthetic --
Q. Sorry, moving on.
A. When I looked at the notes on the Tuesday, the Tuesday morning --

Q. And, from those notes, you appreciated the volume and rate of infusion of fluids and the nature of fluids; is that right?
A. I did.
Q. What was your view then, as soon as you saw that?
A. Alarm bells.
Q. Did you communicate that to anybody?
A. Yes. I went --
Q. What was the result of that communication?
A. Well, I don't know. I don't even know whether Professor Savage can remember because I met him, I was in a state of absolute shock, and I communicated my view -- well, you know, it's obvious, isn't it? I communicated my view that confirmed that I was seriously worried about what had happened in terms of the fluid management of a child that was under my surgical care at a transplant operation, performed by a paediatric intensive anaesthetist. That's what I said. I don't know how I said it because I think Professor Savage was ... I think we were both ...
THE CHAIRMAN: Was he agreeing with you?
A. To be honest with you, all I can remember of it -- was he agreeing with me? I think he does now, but all I can remember of the encounter was that he had his head buried. I think he was crying.

THE CHAIRMAN: Thank you.

A. I don't even know -- I'm not sure whether he was in such a state that he could remember anything of that time. As I looked at him, I was very ... And I think I told him that this was -- it would be inappropriate for me to be involved any more in ...

MS ANYADIKE-DANES: Sorry, you said it would be inappropriate for you? Why?

A. Well, I just ... Well, there were obvious concerns, but I mean, I don't know that I could do ... Look ...

THE CHAIRMAN: Sorry, Mr Keane, I know this is difficult, but it's generally important, but it's particularly important for Adam's family to understand what was being said afterwards because you'll know that they weren't satisfied with what they learned afterwards. When you're saying -- let me give you an outsider's view. If you've identified what you thought was the cause of Adam's death, surely it's only appropriate for you to stay involved rather than it being inappropriate for you to stay involved. So what did you mean when you said --

A. I meant a future in transplantation. What I meant by that because I don't think I could -- that, personally, I could look at a child again under the circumstances that Adam had died and say that I'm going to do a transplant. I mean, I had nightmares for weeks

afterwards. I was very affected by the death and having a memory of a child in my mind, and now that I would go to do the same operation again, on a personal level I wouldn't have been able to do it. You'd have to reflect on the service that I was describing, that this was a development service and that we had had a catastrophe beyond --

MS ANYADIKE-DANES: That's one of the things I wanted to ask you. You very fairly described it as a sort of development of the service that started in a sort of nascent way with ideas that Professor Savage had as to how he could take this forward for the children of Northern Ireland, and you were involved in -- I think we agreed to call it -- an endeavour like that to help develop it. And when this happened, did it occur to you at all that it might be because we just didn't have a robust enough service for paediatric renal transplants?

A. Well, that was the -- that is obviously the reflection.

Q. Did you reflect on it?

A. Oh, I did. I did, very much so. The question was --

Q. What I wanted to ask you -- and that reflection on that, did that play any part at all in your own personal feeling that you didn't want to be part of delivering that service?

A. Well, obviously one has to reflect, was I competent? Was I a competent surgeon?
Q. Yes.
A. And I have racked my ... I have examined this issue, as you can imagine, several times.
Q. I'm sure you have.
A. And I personally have no doubt that I was competent. I had the experience in adult surgery. Children's physiology is different, but their anatomy is constant. I had the back-up of a nephrologist to whom -- you've heard how admirable he is. I had done my duty to Adam in terms of, as I saw it, that there was adequate protection in surgical terms for him, but that I was left with one part of the issue which could not be resolved in my mind, and I don't think that I could have said to you, as a human, that I could have faced the risk that that would happen again.
Q. Right. So does that go to the robustness of the renal paediatric service at that time?
A. At that time, yes.
Q. Yes, that's your concern?
A. That was my concern, that we -- you see, I believe that the development of transplantation should have gone ahead as it is doing, multi-disciplinary teamwork, and you'd have to reflect to yourself on an issue of ... As

we were dealing with, that actually there must be -- there has to be ... Furthermore, I would expect that somebody or that -- the whole thing was going to be a very, very major event in the coming weeks in terms of how the hospital and the legal system would investigate this issue. And --

Q. I beg your pardon, I just want to make sure I'm in the right time zone as you are. When you say "the coming weeks", did you mean the coming weeks after his death?

A. Yes.

Q. That's what you expected?

A. Yes.

Q. Were you part of anything like that?

A. I obviously was part of the investigation because there is correspondence that I don't really remember. I felt I was -- I felt I was very small part of it.

Q. Did you communicate your views, feelings and concerns as you've articulated them now? Did you communicate that at the time?

A. Well, I communicated ... To me, as I looked at it, I did. I communicated the issues that here I was -- that a consultant surgeon was ... The actual surgeon who had done the operation was now -- had informed the service that he would no longer be part of it, and I also --

Q. Sorry, did you? Did you formally inform the service?
A. I didn't formally inform them, but I wasn't -- by virtue of the fact that I -- whatever arrangement, Mr Keane didn't do any more transplants is what I mean. Also, I wrote letters clearly indicating that the surgeon who had done the procedure had some issues, at least, with what the fluid issues were and the bleeding.

So I felt in that regard that I had communicated to Professor Savage. But Professor Savage would have had the same concerns. I mean, I am sure that we had both got the same concerns and that the system would now take this on, that the system would now look at us.

Q. I understand. Did you ever go to Dr Taylor and ask him: what on earth happened there?
A. Well ...
Q. You've described -- [OVERSPEAKING]
A. The answer is no.
Q. Why?
A. I couldn't.
Q. Why?
A. Just emotionally, I felt ... It's difficult to explain this to you. You are expected to keep going in the National Health Service after an event like that. I have an insight into some parts of my character and I'm not sure it would be appropriate to discuss the

issue because I felt that other people should discuss it with both of us. I was anticipating a very full issue for myself to have to ... As I am now.

Q. Did it happen in that way?

A. Well, I ... It happened. I didn't feel that I was a very major part of the investigation, if you like, but there were issues. What did you think? I think that the fluid management looks wrong. That type of thing. But I didn't seem to be -- that I was playing a major part in the investigation, let me put it that way.

Q. Let me ask it slightly differently. I think I know where you're going. Did you play as significant a part as you felt you might have, given your experience and given the fact that you were the consultant surgeon?

A. It's difficult, you see, if you're in this situation because you are waiting for a system to respond to you. You might say to yourself: I should be doing something more in terms of the investigation, but you might not be right. You might be --

Q. You're almost answering it, actually. What I'm trying to find out is: was it your expectation?

A. It was my expectation, but when you look at how this whole thing has developed and certain reports into how this happened, I might be completely wrong. I had insight into the fact that I actually might not be

right.

Q. Let's go back to 1995.

A. Right.

Q. When I was asking you about the fluid administration you were pretty clear that you thought that that was going to have fatal consequences. If anybody had told you that that's what they were proposing to do, you were pretty clear and, in fact, you were able to roughly work out -- as you said, you didn't actually do it, but you said you could do it on the back of an envelope and work out that that was an inappropriate fluid regime. So you were pretty clear when I asked you that. You were also pretty clear as to what had gone wrong in terms of leading to the development of Adam's cerebral oedema and his ultimate death.

So the point that I was putting to you is: irrespective of whether now, as we are in 2012, we have the benefit of a whole raft of expert reports, just taking yourself back to 1995, you looked at those notes, you saw what had happened, you went to speak to Dr Savage, as he was then, you formed a view as to what personally you were going to do -- what I'm asking you is: given all of that, did you expect that there would have been a bigger role for you in trying to determine what had happened to Adam and what might be done in

terms of lessons learned and --

A. I can only answer that -- you see, if you're in an emotional situation like that, it's difficult to answer these questions.

Q. I accept that.

A. But if you look at what I would have expected having come from the Hammersmith, I would have expected -- and I know how this would be done -- somebody would say, "You've had a terrible time, we're going to give you 3 or 4 days off, and we'll bring you back later in the week to chat about it", not that you were suspended, but even on an human level, we must all have been absolutely out of it. In the same thing -- as I would understand how the Hammersmith would have done it, was that you'd be offered time to reflect, but clearly you were going to come in to a meeting where somebody would ask you in detail how that procedure was --

Q. Questions would be asked?

A. If you want to put it that way, yes. Questions were asked, but not in the way that I had experienced these type of issues in the past. I can only say that that's how I felt it would go.

Q. Can I ask you this: in the time that you were at the Royal and carrying out -- I know you did a number of adult transplants, but in the time you were involved in

carrying out paediatric ones, which spans a few years, and you knew about that happening, had there been any other deaths?

A. In transplantation?

Q. Yes. Paediatric renal transplants. That you were aware of, I should say.

A. Definitely not. This is why this is --

Q. Had you experienced one before?

A. In a paediatric transplant?

Q. Yes.

A. Not that I'm aware of.

THE CHAIRMAN: Sorry, were you going on to say this is why Adam's death came --

A. This to me, I mean, as I am telling you, I would describe my state as one of shock.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I think you had said that -- and I think you had sort of included others -- you were absolutely shocked at what had happened.

A. Well, I meant particularly -- the definition of that statement -- we were all -- we meaning -- you see the partnership was not with the anaesthetist; the partnership is the transplanter and the nephrologist.

Q. Yes.

A. But the team has another member. So let me rephrase

this. The partnership was in shock. I didn't ever see Dr Taylor, particularly close to the event. I never saw him, but I saw Maurice and I saw the state he was in. But I didn't actually encounter Dr Taylor close to that acute emotional ...

Q. But it's something that's made an impression on you, clearly?

A. Which, the whole thing?

Q. The whole episode, culminating in his death.

A. Well, when the nightmares come, it's a baby about to have an operation.

Q. You did have Mr Brown with you as a surgeon, who you did know. Did you discuss it with Mr Brown?

A. Well, you see, I can't answer that because the partnership is Professor Savage.

Q. I understand that. But you knew Mr Brown and --

A. I did.

Q. -- and he was assisting you that day, so I'm asking you: did you discuss it, even at a human level, with Mr Brown?

A. I assume ... I have no recall that I had a formal discussion with him. I just don't remember that. Because the relationship between the transplanter and the nephrologist is so close, I would have much closer relationship in the service that I was involved with

Professor Savage than I actually had with the surgeons.

Q. I appreciate that. But actually, Mr Brown on one explanation that you have given as to why Mr Brown was there in the first place, one of the explanations is Mr Brown was there because, like Mr Boston, there was a possibility that either he might want to carry out some of these procedures himself or if he had a look at it -- I think the other alternative when you gave your evidence was that he might be thinking that there was a young surgeon who could be encouraged along that line. So this surgery that ended so badly was supposed to be, as I understood you, very similar to the surgery that you had embarked on with Mr Boston.

So if he was coming in like that to get an appreciation of what it might be, of course it had all ended up disastrously from every possible respect, and I am wondering, in those circumstances, whether you discussed it with him.

A. I think I could clarify that. Adam Strain was in no way comparable to the patient that I had done in my memory. Adam had had a lot of previous surgery. If I remember the previous transplant -- let's say he had something like congenital nephrotic syndrome or something which wasn't a surgical cause of the renal failure. So that Adam, to a surgeon -- as I looked at it -- not

Victor Boston, not anybody would touch Adam surgically because Adam was my responsibility to look after in terms of surgical complications and to ask somebody to try and go in through all that previous surgery, to do these arteries when they had never done it before --

Q. Sorry, you're misunderstanding my question.

A. Sorry.

Q. No, no, no. It's my fault; I hadn't put it clearly. That's not what I meant, although we will get on to what his role was later on.

At this stage what I understood you to say is part of the endeavour, if you like, is training up -- not training up, but sensitising senior surgeons, paediatric surgeons, to what transplant is like and to see whether either they might want to do it or they might want to encourage junior surgeons that they knew. Victor Boston was the first of those and I thought you had said that Mr Brown was in a similar position, that was one of the reasons.

A. That may be a slight inaccuracy. I couldn't say he was enthusiastic to become a transplanter, but as I spoke to him and understood it, he had quite an intimate knowledge of Adam's past history, obviously, and just purely, obviously, from a -- he would want to be involved. I would if I had operated on somebody in the

past and there was going to be an operation -- as a surgeon, I would definitely want to be involved. Not to do it, but to be involved, if you see what I mean. So I'm not sure that I could define --

THE CHAIRMAN: Because you're bringing something to the event?

A. To the table, yes.

THE CHAIRMAN: Because you have some knowledge of the patient.

A. Of course. But I couldn't say that Stephen Brown was the transplanter. If you look at it from his point of view --

MS ANYADIKE-DANES: Sorry, let me help you. Some of these witness statements are developed over time. Let me pull one up just to help you. 006/2, page 2. In fact, we had it up briefly when we were talking about the honorary contract. This is the answer to 1(a). You talk about:

"With reference to transplantation [the third sentence], I was involved in teaching the surgeons at the Children's Hospital how to perform the procedure, hence Mr Brown's involvement."

So I took that to indicate that this is part of your plan, that you would gradually either literally teach or more, I think, as you have refined it in your evidence

today, give exposure to transplant surgery to some of these senior paediatric surgeons?

A. Yes.

Q. And that's what I thought you were saying about Mr Brown. That's why I ask you, if you had brought Mr Brown in -- there may be some other reasons why he was in there as well, but focusing on this one. If he was there in any way for that reason, then I'm wondering why you didn't then take an opportunity to discuss what had happened in the same way as you said you would be taking somebody through what you were doing and why you were doing that. This had ended very, very badly and I'm just wondering why you didn't take the opportunity to discuss matters with Mr Brown.

A. Okay. I'll try and explain what I meant. Surgeons in general are committed to how their own department will work. Whether or not you have 59 or 39, you would actually have an interest in what your legacy department might look at, and I would define it more that way, that Mr Brown was looking at it as well. I knew he was interested. Whether or not he would -- I don't think anybody except myself would have been appropriate to operate in any -- or touch Adam Strain with a sharp instrument for the operation he was going to have. He was --

Q. I've understood that point.
A. I would say to you that all of the surgeons that I knew -- well, they were all interested in how to develop the Sick Children's -- how would you not be interested in how to look at that? And I would say that Mr Brown's involvement was one. I think he was on call and I was grateful that he was there. I think if he hadn't seen a transplant procedure, he certainly would have been interested on any patient to look at this, even unscrubbed. And I think he would like to see himself as well what the potential for the department that he worked in -- how did he -- what was his opinion.
Q. I understand that, which is why I'm still -- sorry to press, but I'm not sure that I've entirely got an explanation for why, that being the case, you wouldn't have gone to discuss matters with him afterwards.
A. Um ... I ... Well, first of all, I have no recall, but the only way I can say this to you is, if you like, the marriage or the partnership, the relationship, it wasn't Stephen Brown who looked after Adam. In my view -- and I'm not saying he didn't; I'm saying as a surgeon, a transplant surgeon, it was Professor Savage and Mr Keane.
Q. Sorry, you've been clear on that.
A. Do you understand how intensely I would feel about --

Q. I do understand that and you have talked about it in a way quite movingly about when you saw the level of his distress when you went up to look at the notes. That I understand. The fact that I put that to one side doesn't mean that I'm discounting it; I'm on to something else.

Here is somebody who was assisting you through that surgery. The child has died and all I am trying to find out is why wouldn't you -- one would think it would be entirely normal to go and sit down and discuss with him and share your views as to why you think that had happened and, given that your view was that there was nothing from the surgery that produced that, discuss that element and say: look, it was this or it wasn't that and so on. It would just seem a normal culmination of the work that the two of you -- his presence there with you, assisting you. And all I want to find out is why you didn't do that.

A. Um ... I may have. Because there are issues here -- we're looking at events of an extreme emotional impact on somebody.

Q. Yes. I understand that.

A. As you recall it, you see -- you recall events that are indelibly etched and you recall lesser events, you know -- and I don't know how to explain this to you. As

you look back to something like that, 10 years, 15 years down the line, to be asked 17 years ... You see, it's the scale of how important -- I can't answer it that I did or I didn't because the indelible thing --

THE CHAIRMAN: Can I take two things from this, Mr Keane, so that we can move the point on? You have explained why you would speak to Professor Savage and you do recall speaking to Professor Savage. You don't recall speaking to Mr Brown. It's a bit less likely that you spoke to Mr Brown, but you may have done; is that fair?

A. May have done because the intense emotional impact was with Professor Savage. Because if you experience something like that, it's virtually impossible to say: who else did you talk to? "I don't know" is the real answer because I can't -- because of the intensity of the first meeting.

MS ANYADIKE-DANES: I understand that. Can I ask you another question, which is to do with -- you say that the effect of this on you was that you -- and you've given your reasons for it -- no longer engaged in paediatric renal transplants after Adam.

A. Let me qualify that. No longer involved -- sorry ...

Q. I will pull something up to help you.

THE CHAIRMAN: You said a few minutes ago you told the service that you would no longer be part of it.

I understood that to be a reference to you speaking to Professor Savage.

A. Yes. I informed Professor Savage, as I would see the service.

MS ANYADIKE-DANES: Does that mean that you personally wouldn't carry out or assist in paediatric renal transplants?

A. There's a slight foible here. I wouldn't do one at Sick Children's. It depends on -- when you say "paediatric". I would have -- what would you say? For me, I -- well, maybe ... I just couldn't go back into a theatre in Sick Children's after what had happened to do a transplant, but I would go back to where I had a comfort zone at the City on an older child, which is technically a paediatric transplant, if you see, and I wouldn't have a difficulty. It's the ... To experience as a surgeon what happened is -- I can't describe it.

Q. Could we pull up 301-047-414? If we go to 413 to see what it's all about. This is a letter the DLS wrote to the inquiry on 2 August last year. There were a range of issues that we were seeking information about. Can we then go back to the 414?

If you see there under 4(iii):

"Between 28 November 1995 and 13 October 2010,

Mr Keane was involved in two renal transplants at the Children's Hospital. These took place on 16 June 1996 and 31 March 2000."

As I understand it, the Children's Hospital only does paediatric transplants and, from what Professor Savage said, they're really focusing on the younger ones. So can you help as to why the DLS is informing the inquiry that you were involved in two renal transplants at the Children's Hospital after Adam's death?

A. Well, the reality of it is I don't have a memory of doing this, so I would want to check it, but I can give you an explanation.

Q. Yes.

A. The difficulty I had in terms of the thing was the child, you know? If you look at a child on a table and you think it's one of your own, and it may be that these cases relate to older children. But I have no recollection of this. These may be cases -- you see the -- it wasn't unusual for us. If you look at paediatric -- I should explain this to you: the paediatric transplantation in Belfast when I came was happening at the City --

Q. Yes.

A. -- and these cases may or may not relate to cases --

older children that were done in the City, coming from the Royal -- to the Royal Sick Children's, I don't know.

Q. I understand that you may want to check it and that's fine and we'll invite you to do that, but if you could just bear in this mind, that the -- I presume that the DLS has tried to get their information from somewhere reasonably accurately. But they are transplants, they say, that are taking place in the Children's Hospital, so that will give the patients a certain age. And then if you look at the first one, the first one is about six months after Adam's, 16 June 1996.

I had understood you to say -- and you are going to go away, I'm sure, to check this -- that your concerns were about the robustness of the service and the concern that it might happen again and you referred to how, maybe, you would do paediatric ones, but maybe slightly older and in your comfort zone -- I think you described it as -- at the Belfast City Hospital and not the Children's Hospital?

A. Yes.

Q. I see that you're trying to find out what an explanation to this might be and maybe the fairer thing would be to allow you to do that. But that's the information that we have from DLS.

A. Okay, I see where you are and I'm not sure -- is it

this ... I have checked this issue in some way or another with Dr Walby. I don't know whether these were sent to the trust to -- I'm not sure now.

THE CHAIRMAN: The sequence would be, Mr Keane, that we would make the enquiry from DLS who would contact Belfast Trust. Of course, by the time this letter's written, it's all one trust. Maybe not seamlessly, but it is one trust. And the information that we receive back just on this point, you see what it is.

A. I see the point of it. I have a clear recollection of, very recently, being up in administration at the City with sets of notes from the inquiry to check what was this issue. And my recollection of those is that they're 13 and 14 year-olds at the City. I can see why this confusion might arise and I'll certainly check it. All of these children that were to be done at the City, the older children, would have notes in Sick Kids. What I was saying is that I didn't go back to the theatre in the City -- in the Royal. In other words, saying, in effect, that I wouldn't do small children again, but I would do paediatric transplantation provided they were over at the City Hospital, they have Royal Belfast -- Royal Children's notes coming over to the City to be done.

MS ANYADIKE-DANES: I understand. It's simply that it says

"transplants in the Children's Hospital".

A. I agree.

Q. Maybe we'll leave it because I'm not sure that we can advance it.

A. If it's important: I do recall this issue, and I do recall checking because I do recall, "Oh my God, have I said something incorrect to the inquiry?". I have checked and I'll check again and I'd prefer if you will check.

Q. We will pursue it with the DLS.

THE CHAIRMAN: Since we're here, since this is a three-way exercise, Mr McAlinden, could your client please correct the accuracy of this information?

MR McALINDEN: Yes.

THE CHAIRMAN: Thank you very much. I think Ms Anyadike-Danes is about to move on from it. Just before you leave this point, when you talk about being willing to do them on older children and in the City, you referred to that, the City, as your comfort zone. Can I ask you directly: is that, at least, in part a reference to the fact that you knew the anaesthetists on the site and you would prefer not to go back to the Royal in case you came across Dr Taylor again?

A. I would phrase it as "in case something like that would happen to me". You work as a surgeon, you know your own

anaesthetists, and you would know how to handle yourself better, if you know what I mean. You would know who was coming.

THE CHAIRMAN: One other point: this questioning arose because you told Ms Anyadike-Danes, in answer to one of the questions, that you told the service you would no longer be part of it. And what she's been doing over the last few moments is just teasing out that point. You also said, "I wrote and said that I had issues with how the fluid was dealt with". Who did you write to?

A. I'm sure the inquiry has the papers. I didn't say that were fluids, but I disagreed on -- I think on two occasions in official correspondence -- of the estimate of the blood loss in the case of a transplant.

MS ANYADIKE-DANES: That's a different question. The question that I was putting to you was the effect of the fluid administration, and it was the fluid administration that you sort of did your notional calculation on the back of an envelope and said that that was just fatal.

A. Yes. I --

Q. Sorry, so that we're absolutely clear. Blood loss is a different point, we're going to come to that. But in terms of fluids, what I was trying to ascertain from you is whether you had formed the view that the volume and

rate of fluids administered to Adam during the surgery was fatal or likely to cause him very great harm. And I think you had told me or the inquiry, rather, that you had formed that view when you had gone up and looked at the notes. And it was that that I was asking, whether you communicated to anybody.

A. Well, let me say that it's difficult to answer exactly what I was trying to say and how I said it. Could you set me the question again if you don't mind?

THE CHAIRMAN: I'm just looking for it. I'll find it in a second. (Pause).

MS ANYADIKE-DANES: While the chairman finds that, can I take you to your deposition?

THE CHAIRMAN: Sorry, your answer was -- the question to you was:

"Did you formally inform the service?"

You said:

"I didn't formally inform them, but by virtue of the fact that I -- whatever the arrangement, Mr Keane did not do any more transplants is what I mean. Also, I wrote letters clearly indicating that the surgeon who had done the procedure had some issues, at least, with what the fluid issues were and the bleeding."

A. Well, can I --

THE CHAIRMAN: I just want to make sure I understand what

you're saying, Mr Keane.

A. What I had -- can you do it for me again? There's two parts to it. Can you do it in separate parts?

THE CHAIRMAN: The original question was:

"Did you communicate your views, feelings and concerns as you've articulated them now? Did you communicate them at the time?"

Your answer was:

"Well, I communicated -- to me, as I looked at it, I did. I communicated the issues that here I was, that a consultant surgeon was -- the actual surgeon who had done the operation had informed the service that he would no longer be part of it."

And Ms Anyadike-Danes said:

"Sorry, did you formally inform the service?"

And you said:

"I didn't formally inform them, but I wasn't -- by virtue of the fact that, by whatever arrangement, Mr Keane did not do any more transplants is what I mean. Also, I wrote letters clearly indicating that the surgeon who had done the procedure had some issues at least --"

The surgeon who had done the procedure is you?

A. Yes.

THE CHAIRMAN: So, in effect, what you're saying is:

"Also, I wrote letters clearly indicating that I had some issues with what the fluid issues were and the bleeding."

A. Yes. Well, can I deal with the second part first? I did -- I believe that in reference, in literature, that you have that I said that on at least one, if not two, occasions that I did not agree with the fluid -- if the blood loss calculations, which are critical to the fluid management, of --

MS ANYADIKE-DANES: I'm interested in the administration of fluids, not the blood loss calculation. Because it's the fluids that you're talking about. I think we all understood the context in which you were saying that. That's what I'm trying to find out, whether you have communicated that in any letter to anybody.

A. I would need to see the letters put in front of me, but what I was trying to communicate is that the surgeon who did the operation had --

Q. You?

A. Me -- was clearly saying that the fluid/blood loss calculations I had issues with. In other words, the issue was the blood loss and this idea of sucking blood out of the bladder, that all of the fluid in the bladder, et cetera, was blood.

Q. I'm sorry, Mr Keane, that is actually not how you put it

earlier. I think we have re-read it a number of times and I'm going to move on.

A. I was trying to communicate there was a problem, is essentially what I said.

Q. Yes, exactly, of course we all knew there was a problem: Adam was dead. What we're trying to find out is what you thought about that problem and what you communicated to anybody about it. And I thought where we started off, in a fairly straightforward and simple way, was that when you went to look at his notes afterwards and met Professor Savage, what you thought was the problem was he'd been given too much fluid of a dilute solution too quickly. That's what you seem to be communicating and we didn't get into the blood loss until a little bit later on. So it was that fluid administration that I wanted to stick with, but since then there's not entirely clear what you say you communicated in terms of the fluid being the dilute solution being administered at too quickly a rate at too high a volume. That's where we were.

Can I move you on and pull up your deposition at 011-013-093? If we just take the typed part because that's the bit that sort of reflects the evidence that you gave the coroner before you -- any questions were put to you. And in fact, you did write because

the coroner asked for it, for everybody who was involved in the procedure, and you were specifically asked to provide a letter and you did provide a letter. And this typed part reflects very much what's in that letter and we can get the letter if necessary.

But let's look at the typed part. It's very, very short. You're asked to transplant Adam on Monday:

"The operation starts at 7.30 ... technically very difficult because of previous surgery that the young boy had. Despite the technical difficulties, the kidney was successfully put into the child, perfused quite well initially and started to produce urine. At the end of the procedure, it was obvious that the kidney was not perfusing as well as it had initially done, but this is by no means unusual in renal transplantation. The whole operative procedure took about three hours. I was informed later on that day that the child had severe cerebral oedema and that he was probably brain dead. In summary, therefore, the operation was difficult, but a successful result was achieved at the end of the procedure."

So before we get into the questioning, that's what you provided the coroner. Where in any of that does it say anything about your concerns about the fluid administration by the anaesthetist?

A. It doesn't say anything.
Q. No.
THE CHAIRMAN: Why not?
A. Well, by the time this had happened, by the time the depositions -- first of all, I could ... I am responsible for the letter, but I'm not sure I understood the significance of the letter or that anybody would send it without telling me precisely what I was doing in terms ... And I was very unsure as to where this was going. Nobody seemed to be as aware as I thought and I was also aware that I could possibly be wrong, as we've seen in the inquiry.

So I was trying to be cautious and say -- that letter was written as to what my role was in it, that I shouldn't have ever said "a successful result", but a technically successful result was achieved. I didn't monitor -- I didn't raise a concern in a letter saying that because it didn't appear to me that what I clearly thought I understood was a problem and that therefore the possibility that I was wrong or not interpreting what I thought about the fluid management given that there were anaesthetists looking at these issues, might be wrong, and I would have thought at that stage that to raise a concern at a coroner's inquest, in which I had a doubt as to -- I had a slight doubt that I was

wrong -- would be --

MS ANYADIKE-DANES: Sorry, did you have a slight doubt that that volume and rate of administration of fluid might be wrong? Might actually not be dangerous to Adam?

A. I had very little doubt that I was wrong, but I was -- can I put it in context for you? I was going to a ... In terms of the doubt. The issue was: could I possibly be wrong? Let's wait for the coroner. Because they were going to bring over somebody from somewhere to say -- and when I left the coroner's court having attended it, I felt actually great because Dr Sumner to my mind had --

Q. We're not really dealing with Dr Sumner.

A. I'm trying to --

Q. I understand that, but let's go back to the letter then, since you've referred to the letter and I did as well and it's unfair not to pull it up. I think that's 011-026-127. There we are. This is a letter that the coroner has sought and it comes from the person in charge, the complaints officer. This is your letter to her, presumably for her to be able to pass on to the coroner. So first of all, you have your quick point that you're a consultant and not a registrar, which would probably make a difference in this case and that ought to be cleared up by the coroner.

Can we pause there now that we're at the letter? What difference did you think that would make?

A. I had, for obvious reasons, as a junior consultant -- I wasn't anticipating that this was going to be -- that there was going to be a significant medical legal issue and that I ought to say for certain that I was a consultant operating on this boy, that I didn't go over as a trainee. If I had said that, I would have found myself in a very serious position. If the coroner had thought that a trainee surgeon had operated on a boy with issues which were rightfully the domain of a consultant surgeon, as this issue --

Q. Mr Keane, sorry, you have said that although you were rather late to becoming a consultant, as a matter of fact, though, you had a number, a vast -- a number of operations to your credit, considerable experience, and if you compared your experience with those who were more -- who in these days become a consultant, there was no comparison. I think you said you had 77 operating hours and somebody else might have only 19. So it really doesn't matter very much. I simply wanted to find out from you what you thought, which would probably make a difference in this case.

A. It's purely self-protection in case of subsequent issues that a coroner or anybody would think that a trainee

surgeon would do Adam Strain.

Q. I understand. If you go to the second paragraph, the second paragraph is, as I indicated, almost exactly what you had given in your deposition to the coroner.

If we read through it quickly --

THE CHAIRMAN: There's no material difference.

MS ANYADIKE-DANES: So that's you writing --

THE CHAIRMAN: Do you understand what I mean, Mr Keane?

The coroner has taken the text, apart from correcting -- the correction of your title and your status, the substance of that letter is what appears in the coroner's statement.

A. The answer is yes, but could I say that this is what confuses me, that somebody has transcribed that letter into a coroner's letter, which I was not party to. Although I signed the letter because of the way the coroner's court works, I just raise the issue that actually --

MS ANYADIKE-DANES: I'm not quite sure what the issue is that you're raising. Is the letter accurate?

A. The letter is accurate. It's my letter and it's the letter I wrote to the complaints officer. Suddenly, the contents, as you would say, Mr Chairman -- this is transcribed into a coroner's deposition and I signed the letter. But I am not sure how the transcription of the

summary, if you like, or the content of this letter arrived into that. That's the point.

Q. Are you saying you didn't know that the information you were providing in this letter would find its way to the coroner?

A. I'm saying I'm uncertain how that happened because I signed the letter, but in the Coroner's Court you get handed your deposition and they say to you, "Sign it". But they don't say, "Why don't you go out for 20 minutes, look at this letter?" I actually signed it in the witness box. But what confuses me about this is: how did that ... I would imagine -- if I wrote this letter as a deposition to the Coroner, who edited or changed it slightly? That's the point.

Q. Perhaps let's look at reference 011-020-119. Let's see if that helps. This is the Coroner to Mrs Young, who was the same person that you were writing to:

"A four year-old child died in the [Children's Hospital] on the 28th following kidney transplant surgery. One of the surgical team was Mr Patrick Keane, senior registrar [that's what he thought you were] in urology from Belfast. I should be grateful if you would let me have as soon as possible a statement from Mr Keane, fully detailing his part in the surgery and commenting as to whether it progressed uneventfully or

otherwise. Dr George Murnaghan of the Royal is arranging to let me have statements from the RVH clinicians involved."

So uneventfully or otherwise might involve whether you thought an appropriate fluid regime had been applied. You're the surgeon there at the time when it's happening.

A. Yes.

Q. So in answer to your question, "How did it get there?", it got there because the Coroner has written this letter, seeking a statement. You presumably could have put whatever you wanted in the statement. You have responded by that letter to Mrs Young and therefore, perhaps not surprisingly, the Coroner has transcribed that into a deposition for you.

A. That's the point, somebody has summarised -- not summarised, but the exact message was phrased in a different way. I'm unaware --

Q. Which message?

THE CHAIRMAN: Sorry, I think we're both working on the understanding that this letter, which came in to Mrs Young, was forwarded to you and that's what prompted you to write your statement.

A. Oh yes, I wrote the statement and I --

THE CHAIRMAN: But knowing what the Coroner wanted it for?

A. Oh yes, but I -- well, I accept that. But what I was saying is, it's not quite the exact lettering and wording in the letter and how that happened, I don't know. But what I --

THE CHAIRMAN: Apart from correcting your title, is there a difference?

A. I thought you'd pointed out, it is not actually the exact wording of the -- you know that my Coroner's deposition letter is not the exact wording.

MS ANYADIKE-DANES: Is it not? Let's have it up again.

A. That's what I thought.

THE CHAIRMAN: The difference, as I see it, is that it corrects your title at the start. It refers to you as a consultant rather than a senior registrar.

A. Yes, but if you look at the deposition and the letter that I wrote back to Ms Young, it says what I said in that letter, but it's not word for word.

MS ANYADIKE-DANES: I think we can -- the technology might assist us. Can we pull up side by side 011-026-127 and 011-013-093? Is that possible? There we are. Is it possible to juggle them up so they're almost --

THE CHAIRMAN: That's okay, we can work from there.

MS ANYADIKE-DANES: Can you help me with what you say is different?

A. No, I've just seen this and it looked as if it was

slightly different. Okay. (Pause).
Q. Is there a difference?
A. I'm just reading.
Q. Sorry, I beg your pardon. (Pause).
A. No, it's the same letter. Yes, it is. Sorry, it was an impression that I got that wasn't quite the same.
Q. So they are the same?
A. They are the same.
Q. Right. So then actually, the point of it was to ask you why you had not included in it the concerns that you had since the Coroner was specifically inviting you to deal with that -- well, not that sort of thing in the sense of the fluids because he didn't know the fluids would be your concern, but those sorts of things, why you didn't include that in a statement. In fact, why you didn't produce a statement at all, why you just wrote a letter to Mrs Young.
A. Can I go back to the letter because I would have thought I -- it would have been offered, an opportunity to say to me, somebody -- this is your letter to the Coroner, if you know what I mean. This is the letter I accept responsibility for, but I don't remember this correspondence saying to me -- you know, I didn't appreciate that this was going to be the Coroner's letter. Can you go back to the letter that asks me

to --

Q. I think it's 011-020-119.

A. You see -- sorry, the letter requesting [sic] me for the information about the surgery.

Q. 011-020-119. There we are.

A. Now, I would read that as a system -- this letter, as I read it now:

"I should be grateful if you would let me have as soon as possible a statement from Mr Keane, fully detailing his part in the surgery ..."

I assumed, because this was such a serious issue, that we were going to say "the surgery" as in the surgery.

Q. And commenting --

A. As to whether the surgery progressed uneventfully.

Q. It doesn't say that.

A. No, I'm telling you as I read this, or as I would have felt I read this, that what they were asking for is: was there a problem with the surgery?

Q. Why on earth would you not include -- you're an experienced urologist, you conduct the surgery. So far as you're concerned, when you go and look at the notes afterwards, you simply can't accept the fluid regime. You form a view. In fact, it's such an important view you form about that and your feelings about that that it

causes you, subject to a little bit of checking with DLS, not to do any further paediatric transplants at the Children's Hospital. Why on earth don't you reflect any of that in your letter or statement that is ultimately going to find its way to the Coroner?

A. Because in 1995 -- and I believe I would adopt -- well, in 1995, I had full confidence that this case was now finally to be determined, cause of death, by an expert other than ... You see, I would have felt that I was not an expert witness, but a witness of fact. I was actually in there, but here you go, I'm off to ... as I understood it -- I'm not a lawyer -- but the state had a system whereby a death like Adam Strain, no matter what you as part of the team had to say about it, or anybody who was involved in it, you will be investigated in a formal court process and we will bring the appropriate experts to give an independent, outside assessment.

And what I was doing in that letter was stating clearly that as far as I was concerned, the surgery was uneventful and it went on successfully and with a technical result, the child is dead, bring over somebody here who will ... in advance of the Coroner, not that I'd ever been in a Coroner's Court before or since. That's as I understood the system.

The system didn't seem to be anything -- the only investigation of Adam Strain's death that I would have said was total and efficient is the one I thought I was going to. And the result of it, when I read it, essentially confirmed that my concerns which I'd had -- and I hadn't had them conveyed in the way that you would expect it, but I knew there was a system. I knew that some day this case would -- somebody would say the cause of Adam Strain's death was excess administration of hypotonic fluids resulting in cerebral oedema.

Q. So there was absolutely no need for you to mention it?

A. Well, you were asking me. I'm trying to say to you how I reflected on this.

Q. No, it's a question. There was absolutely no need for you to mention it?

A. No, no, that's not quite what I said. It's 1995, you're a junior consultant, this is your first ever -- and what do you say about something. You need to be careful, you need to realise -- you need as a doctor to realise that you may have a very strong opinion, but there's always a possibility, however bizarre -- and when I read the reports in this case, I'm glad I didn't say anything.

I was saying, "There wasn't anything wrong with the surgery, I'm going to the Coroner's inquest, I'll decide then -- then -- once the system has looked at it, what

I'll do."

THE CHAIRMAN: Why couldn't you say -- you see, Mr Keane, you know that one of the big rationales for inquests is to find out what went wrong and to try to make sure it doesn't happen again.

A. That's the whole point of why I wasn't saying anything. If you let me expand that point. My understanding of being involved in something like this is that you're not an expert, you should not rightly try to influence and I think that's important. I never tried to influence the way that the system would interpret this. I never tried to say that somebody on the other side of the equation was doing something. I kept it straight: let the state look at this and see. And they made a determination. I happen to agree with it.

THE CHAIRMAN: I'm going to break in a few minutes because we've actually run on to 1 o'clock, which I'm not unhappy about, and I'll expect you'll want a break. You were so confident about what had gone wrong that, earlier this morning, when Ms Anyadike-Danes asked you about this, you said:

"If somebody had told me of the volume and rate of fluids which Adam got, I'd have said 'no chance'".

A. That's what I said.

THE CHAIRMAN: So it'd be very simple for you to say to

the coroner, "As far as I'm concerned, for the reasons I have given in my statement, the surgery went fine. I can't be certain, but I'm really worried about the fluid regime which was applied".

A. I understand the point you're trying to make. I'm not sure the sequence of how I gave evidence at the Coroner's Court --

THE CHAIRMAN: I'm talking about your volunteering that in your written statement, whether you gave evidence before Dr Taylor or whatever.

A. The point was, from my perspective, as I looked at where I was, I had an issue, I had a serious concern about what was going on. But I thought it would be wrong of me because I was actually the surgeon involved to, if you like, try to influence something. I wanted an independent somebody to look and declare the cause of death. That was my thinking. Now, I understand that as you look back on it now, you say, "How could you feel that way?". But you see, the Bristol governance thing came in six or seven years later.

I was naive, scared, didn't know --

MS ANYADIKE-DANES: Scared?

A. Well --

Q. Were you?

A. Well, I wasn't. That's --

Q. No, sorry. Why were you scared?
A. Well, there are many issues. You see, if you come to an issue like this and you think that it isn't going to be sorted out, that the cause of death is not going to be established properly, then I would have a huge problem because I would have to say, "No, no, no, hang on". I'd have to... In 1995, my thought process was: let the state investigate, bring over an expert, try not to give my side of the story in such a way --
Q. Yes, you have said that, Mr Keane. I'm going to ask you one last question. You've described how you all sort of worked together. Could it be that you didn't want to be the person to openly criticise another colleague? In fact, it suited you to see if somebody else, the coroner's expert, would do that for you?
A. I understand why people would feel that.
Q. It's 1995. Perhaps it's a different environment.
A. Well, it's 1995, there's no Bristol, there's no governance stuff as to say -- guidance in 1995. What I was afraid of -- and when I said scared ... I'd have a huge, ethical, moral dilemma if the coroner's inquest didn't get it right. I felt that the state should decide without me chirping up in the background saying: actually, it was the anaesthetist, actually it was the anaesthetist.

Q. No --
A. I was trying to explain what my -- you were asking me how, mentally, I --
Q. I didn't ask you to say, "Actually, it was the anaesthetist". What I was asking you is: why didn't you raise the fact that you thought there'd been a fluid management problem, if I can use it slightly neutrally like that? That's what I was asking you, which has nothing to do with saying, "It's the anaesthetist".
A. I'm trying to say that I -- what I was trying to do was let the state decide and give my absolute indication that the surgery wasn't a problem, leave it there, let them get the experts to look at it, let the coroner decide. Because I didn't have all this -- governance issues, they weren't clear in 1995.
MS ANYADIKE-DANES: I think you've answered that. Thank you.
THE CHAIRMAN: Okay. I've got that. I don't think we need to go back on that. We'll break now until 2 o'clock, Mr Keane.
(1.03 pm)
(The Short Adjournment)
(2.00 pm)
MS ANYADIKE-DANES: Mr Keane, I wonder if we could move now to the issue of the protocol for renal transplantation

in small children. We'll put it up just to familiarise yourself with it. It's 002/2, page 52.

There we are. As at the time of Adam's transplant surgery, did you know about that protocol?

A. Yes.

Q. Okay.

A. I knew there was a protocol and I had read it, but I wouldn't say that I was ... I knew it and had read it, but not at the time of Adam's transplant. On previous occasions. In other words, I knew it.

Q. You knew it?

A. I knew it existed.

Q. Right. And did you know that it would govern Adam's transplant since he was a renal transplant?

A. It would govern the medical aspects of his transplant.

Q. Yes, okay. Could we pull up witness statement 006/2, page 17? This is your second witness statement for the inquiry. Can you look at the answer to question 29?:

"Identify any protocols and/or guidelines which governed Adam's renal transplant surgery and those which currently govern such procedures. None at the time. I am not aware of current protocols or guidelines as I have not been involved in paediatric transplants since 27 November 1995."

But the first bit, which is, I take it, a reference

to your ability to identify any protocols and/or guidance which governed Adam's renal transplant surgery was that there were none. Why did you answer it like that?

A. It's clearly an error. I was aware that there was a document like that because I had been there before, and that is clearly an inaccurate recollection when you answer it. You know, I knew that there was a protocol that I would have read, but not at the time of Adam's transplant. I was referring really to the time of Adam's transplant as at the exact date of Adam's transplant as distinct from at the era.

Q. Sorry, let's be clear. Did you know, at the time of Adam's transplant, that there was a thing called a renal transplant protocol or there was a protocol governing paediatric renal transplants?

A. I was -- yes. That's an inaccurate statement.

Q. So this is wrong?

A. That's wrong.

Q. Right. That's what I'm trying to get at.

A. Yes.

Q. Okay. So if you were aware of it, did you read it before Adam's transplant at any stage?

A. No. I had read it at previous transplant procedures --

Q. Yes.

A. -- but not specifically at the actual date of Adam's. I had not read it. That's where my confusion arose. I hadn't read it at the exact time, but I had read it. But I couldn't tell you at which procedure I had read it.

Q. Right. Well, did you know what was in it?

A. I knew that reading it and knowing Maurice, Professor Savage, that this was the medical protocol for investigation, treatment, immunosuppression of a child undergoing a transplant, but that it had essentially little impact on how I approached the transplant, the surgical -- any surgical impact. It was all about the medical treatment, investigation and work of -- our assessment of the child coming in.

Q. The assessment of the child coming in?

A. How a child being brought into the Sick Children's would be investigated, what investigations would be appropriate and how the drugs tests, et cetera, the immunosuppression, would be looked at. But from a purely surgical point of view, I had felt I had read it and I knew that Professor Savage would do a good job and it wasn't essentially, if you like ... I didn't regard it as -- from my surgical aspect of Adam's care.

Q. Okay. Let's go there again. 002/2, page 52. See that bit down at the bottom?:

"Intraoperative fluids."

That's what goes on during surgery, isn't it?

A. Mm-hm.

Q. Right. Is that part of --

A. In regard to this, this is talking to the anaesthetist.

Q. Well, let's just see what it says:

"Blood, PPF, N/2 saline may be required before the unclamping of the artery to ensure a good intravascular volume. This is determined by reference to BP and CVP levels."

According to Professor Savage actually, this is talking to everyone who is involved in the renal transplant of the child. So that bit about the actual fluids, particularly the extent to which you might need extra blood or PPF to ensure there's good intravascular volume and that you best assist the perfusion of the kidney, that's something that applies to you as well. That's a communication between you and the anaesthetist, isn't it?

A. Yes, indeed, and I'm going to do that, but I don't think the purpose of it is to address a transplant surgeon who had done 200 transplants. I think it was to ensure that any anaesthetist who was unfamiliar or perhaps wanted to review his role, that he would look at this protocol and see that, but --

Q. But that wasn't the question I asked you. What I had asked you was whether you knew what was in the protocol, and as far as I have you, you were saying that the protocol essentially dealt with the medical aspects of the child coming to surgery. And I was simply identifying to you that there is a whole section of it that deals with intraoperative fluids.

A. Yes.

Q. And yes, you're right about the immunosuppression and, if we look over the page to 002/2, page 53, there's a whole lot to do with the post-operative position and that goes on to 002/2, page 54. And on again to 002/2, page 55.

You, I think, have already said that a surgeon is involved in some of the post-operative aspects of a paediatric renal transplant. So --

MR MILLAR: Sorry, sir, my learned friend has put a point to the witness in terms of -- he's already said that the surgeon is involved in some aspects of the post-operative management of the patient. I'm certainly not aware of that as having been part of his evidence.

MS ANYADIKE-DANES: I'll ask --

MR MILLAR: No, no. The question was premised on him having already said this. He didn't say it before and my learned friend needs to be slightly careful she's

running a lot of things into a mixture of narrative followed by, sometimes, a question. That was not part of this witness's narrative and she should be careful.

MS ANYADIKE-DANES: Thank you very much. I will be careful and we will check and see whether, in any of the witness statements that Mr Keane has given or in his evidence, he has actually made any reference to the surgeon being involved in the post-operative aspect of it. You're quite right. We will check that and, if he has, I can put that to him specifically. I'm now going to ask him the question so he can deal with it.

Mr Keane, is there any element of what happens after surgery that a transplant surgeon or surgeon who's carried out a renal transplant is involved in with the child?

A. Of course, but in the context of the arrangements, the agreement, the clear instructions that we had or which are not in this protocol -- is that Professor Savage would micromanage Adam in terms of that. And in terms of the issues that you're addressing about preoperative and the CVP and the clamps, that was not aimed at me because I would be assumed to be expert, much more expert and much more knowledgable on that. That is a message to any anaesthetist who was going to assess Adam for a transplant, that these issues would be

important for him. To say to me in this protocol that I needed to somehow be aware that I had to make cognisance of that would be almost, if you like -- that's assuming that I was a transplant surgeon who knew very little about what he ...

MR UBEROI: Sorry to potentially add to the confusion, but can I just place on record that my recollection of Professor Savage's evidence on this point was that this document was primarily an aide memoire for him.

THE CHAIRMAN: He certainly did say it was an aide memoire for him, but I think there was a bit of ambiguity about what it was beyond being an aide memoire. Aide memoire was not the only description which he attached to it, but it was a description he attached to it.

MR UBEROI: Thank you.

MS ANYADIKE-DANES: That reference to intraoperative fluids, does that signal an area of communication between the anaesthetist and the surgeon?

A. Oh absolutely. I'm on the wrong page now.

Q. I beg your pardon. It's 002/2, page 52. I'm so sorry. Quite right. There, right at the bottom. Starting with "blood", really. Is that signalling an area of communication between the surgeon and the anaesthetist?

A. The clear issue about this is that constant communication must be between the anaesthetist and

surgeon. And this is the point of it. I know how I'm going to manage this from my point of view. This is telling an anaesthetist that he must be aware that, in Adam's case, he, the anaesthetist, must be aware of the fact that he must have a greater level of interaction with me as I concentrate on doing the surgery.

Let me put it more specifically. Under normal circumstances, an anaesthetist would -- the CVP management of his case would be essentially an anaesthetic issue. In a transplant procedure, the CVP management, the management of how the CVP is to go, is the absolute responsibility of the transplant surgeon. I have to talk to him.

I will try to explain it to you. If you look at a balloon as your blood volume and want to expand it a little bit, you want to push a little bit of volume into the balloon, which is all we wanted to do to Adam. We get him asleep, we have him stable, we know what his CVP is, in a range which is normal, and now we want to take it just a little higher. And I'm absolutely obsessive about how this process has gone and that's why not alone would I have talked to the anaesthetist twice in a transplant procedure. Every time I was taking a break from intense work, I would be communicating. I would have said -- I don't have specific recall, but

my invariable practice over a three-hour transplant procedure, I would have said, I would have talked to him, on 20 occasions: how is Adam, what's his CVP?

I would have given clear instructions as to how I wanted the CVP managed in a case, which is absolutely -- I couldn't say absolute, it's very unique in surgery. Most surgeons would not involve themselves in CVP management, they would leave that to the anaesthetist. A transplant surgeon would command the management of the CVP. But obviously, to do that, he's got to be talking to the anaesthetist all the time and the anaesthetist has to be talking to him. We want Adam, gently, over a predictable period -- and it's -- well, in one way it's unpredictable, but that's the point of the communication: where are you and how is Adam, how are you? Where's the CVP? Do you see?

Q. I do understand.

A. So I'm telling him all the time: look, this is going to be difficult, we're going to be stuck for an hour, how is Adam? We don't need to go too fast. But then as I approach the thing where I see: we are going to be out of here ... We are going to be -- the operation's going to finish, say, in my estimation, it's going to finish in 30 minutes. That's the point about this bolus thing. That is the whole point about the obsession of

a transplant surgeon in management of CVP. Adam is better to drift to 10 rather than to be faced half an hour before this issue and having to, you know, give him a lot of fluid to get him to 10. So I'm talking -- I give every anaesthetist -- my invariable practice in this because I'm obsessive about it. I don't know whether other transplant surgeons do it this way; I do it this way. I want specifically not to be in a situation where I have to give him fluid to maintain the transplant. I want this child looked after, micro, bit by bit, to drift slowly, slowly, so that the child isn't getting a hit.

And if you look at what I'm doing, in this type of surgery, in the surgery that I described with Adam, it requires intense concentration of a level that I suspect very few people understand, but as hard as you can concentrate on anything. That's what happens. But during that time, you can do that for five or ten minutes at this intensity, you know. You have to come up, as it were, for air. You'd look round and see: is Professor Savage here, and have a chat. But every time you do that, every single time, you say: how is Adam, is everything all right?

Not every time do I say, "What is the number?", because I clearly understand that he's supposed to

understand -- whoever the anaesthetist is, doesn't have to be the one -- it could be any anaesthetist. He knows what I want, so I may not always ask the actual number, but I would imagine at least half the time I'd be saying, "Tell me what the number is". Now, I don't know -- you see, in a transplant procedure, you have to trust your colleagues. He tells me either he's had trouble, but now he's sorted it out or he tells me: no, there's been no trouble, here is the actual reading.

And I can vividly remember talking to the anaesthetist in this case because, as I said to you, I remember looking at Adam, cleaning him up, tidying him up, making sure even that his nappy was right, and I looked at him and I went to the monitors. Whether I looked at the monitors and talked to the anaesthetist and said: "Here's the plan". As I have outlined it, this will be a very slow process because I knew it was going to be difficult. I couldn't tell him accurately -- I couldn't say I would be finished at five to four, but that we would journey together on this. He needed constantly to tell me if there was anything happening to the child.

You know, if there was something going wrong in terms of his blood pressure because the transplant -- you know, all these things. I need to know. His CVP,

his blood pressure, constantly, and as I'll be working, I'll be asking you. If there's anything wrong, you've also got Professor Savage. He's just one minute out of the door or in the theatre.

Q. Sorry, were you aware of him coming in and out?

MR UBEROI: Sorry to rise. Before that question is answered, could I perhaps ask that the witness's answer is anchored in the evidence he's previously given on this topic, which is 006 --

MS ANYADIKE-DANES: Mr Uberoi, I will be coming to that. I'm just allowing the witness to answer the question in his own way.

MR UBEROI: I'm grateful.

A. That type of environment, you know, that you work in in a transplant procedure, it's different from a any other procedure. I've got to know if there is a problem. The critical issue is Adam's blood pressure. He's a small child, he's taking a bigger adolescent kidney. There are critical issues that we'll be looking at. Blood pressure, critically important that it's run properly and not going up and down. But in reality, you're looking at the CVP.

I can't tell you the details of the conversation, but in my practice I would concentrate, talk, concentrate, talk. I wouldn't wish for anybody to just

be chatting to me, I would ask people to ... If they wanted to talk to me, to ask permission to talk to me, if you know what I mean.

Q. I'm not sure I do know what you mean, sorry.

A. I would tell the theatre staff: when I'm really concentrating, don't disturb me unless you have to, ask permission to talk to me. When I'm doing something very delicate and something might -- I need my eyes exactly on what I'm doing. I don't want someone to interrupt me. I don't mean that in a ...

THE CHAIRMAN: So you're a mile away from the TV image about people chatting about football results when they're operating?

A. The level of intensity that I put into that operation, in terms of my ability to care for him surgically -- but what I'm trying to make clear to you is that you cannot concentrate at that intensity all the time.

THE CHAIRMAN: Yes.

A. You've got to come up. And that's how you do it. You come up and say, "I don't want to be nattering about his CVP every minute", I don't need to know it every -- what it's doing minute by minute. I need to know how are things up there, good? What's his CVP? 7. That's good because I may be an hour away. And is he all right? Yes, he is.

Then you take a deep breath and go back to what you were doing again. That's a description of it. I have to -- could I just say that real surgery has no relationship to anything that ...

MS ANYADIKE-DANES: Yes. You're actually painting quite a graphic picture and I just want to make sure that I've got the right graphic picture in my mind, if I may. So when you say that you've had a period of intense concentration on whatever it is that you're doing, which can only be sustained for a reasonably short period of time, and then you come up for air, as it were, when you don't have to concentrate in quite that way. You said you would have a look around, is Professor Savage here, have a look around ... Are you able to see the CVP monitor when you're having a look around?

A. No. Generally not. If you look at a child on the table, there are two drips on either side, and there's a sweep of drape up to a height -- I don't know what height, but kept well up.

Q. Are you saying that's what happened with Adam?

A. It happens at every operation. Forgive me. I don't want any anaesthetist breathing this way. I would like the anaesthetist -- the drape would go to that height (indicating).

Q. I don't know what "that height" is.

A. Up to the height that you would expect an average male's face to be. Normally, and I can't remember how -- his responsibility is to monitor the CVP. Now, this thing might be like a television on a swivel. Some anaesthetists will want it facing them -- I'm here, they're here (indicating) and whatever angle they want to look at what they're responsible for is the angle that is individual to them. They may put the CVP over here, over there. Generally, from my point of view, you're a glancing blow across the screen. I could never as a surgeon say -- I could say: that CVP looks ... But you couldn't see it, and each anaesthetist is different because the partnership with the anaesthetist, as distinct from the partnership with the nephrologist, is that the anaesthetist will look after the CVP, but he will keep telling me and he will do the operation as I planned it.

In other words, I would think an anaesthetist who wasn't ready in terms of the CVP, when I had finished the operation, a bad anaesthetist if you like -- I don't mean a negligent one, a bad one. If I had to turn round and say suddenly, "I'm behind, I need to take 20 minutes to get the child's CVP up", I would think that was very bad. Whereas if somebody said, "Okay, I'm ready to go -- if, when I turn round, "I'm ready to take the

clamps off very soon", "Yes, here we go", he's understood the concepts I want and we were there.

Q. I want to see if we can help with this idea of how high the screen was and therefore what you might or might not have been able to see. We did have earlier -- I don't know if you saw them, if you were in the chamber at the time -- some photographs not, I hesitate to say, of Adam's surgery, obviously, but some photographs of surgery in process. I just wonder if we can have a look at these and get a sense of it. I think we may have four of them so I'm not sure which one is the right one so forgive me. There's one at 300-046-064.

There's one. I don't think we can see the screen from there. Let's try another one: 300-047-065.

A. Could you let me pass a comment on this?

Q. Of course.

A. I think you're looking at a monitor up the top there, although not draped properly. Do you see the drip stand?

Q. Yes.

A. There's a monitor with somebody looking at it and here are two guys looking down, if you want. Please don't take me wrong. Here are two guys looking down a hole. Now, that is the way -- that would ... You see it's on a swivel?

Q. Yes.
A. The anaesthetist would have the right to turn it that way (indicating). I wouldn't care because I can't operate like that, look over at a thing, it's not possible. That's the whole purpose of the communication and the instruction, which is unusual, by a transplant surgeon to an anaesthetist, to tell him exactly the plan. It's invariable that you discuss this in detail. Not to insult him, but to let him know also that he must communicate.
Q. We're going to get to that bit in a moment. We're dealing, at the moment, with the issue of whether you might be expected to be able to see it. So yes, that surgeon appears to be peering down intently at whatever it is he's doing, which is not your coming-up-for-air description that you gave us. Let's try another one: 300-047-065. I'm not sure that we can see -- yes, you can. Can you see that surgeon there is looking down, on the left hand side, looking down? And I think the monitor there is up above the doorway to the top right.
A. Yes.
Q. That seems to be visible.
A. Sorry, could I make a comment on this if you don't mind?
Q. Of course not.
A. Thank you. You see the surgeon with the eyeglasses on

the right-hand side?
Q. They both seem to have eyeglasses actually, if I may say so.
A. All right.
Q. I think I knew where you were going.
THE CHAIRMAN: Where are you pointing? Who are you looking at, Mr Keane?
A. You see there's somebody holding a -- dropping fluid on top of a kidney.
THE CHAIRMAN: Yes. That's in the foreground.
A. Yes. To the right, and the guy who looks -- you see the small chappy? Right on his side, on the big fella's side. Now, look at the view instantly if he turned his head to the monitor. I would suspect you'd see a rather large man rather than a monitor. And consider the fact now that if the anaesthetist is here with this, in this position, with the bottle, and she looked at it, that monitor is -- she is capable of turning the monitor to her.

Now consider the view had she done that. He's looking at the back-end of a camera through a very large male person.
MS ANYADIKE-DANES: Yes. Are you saying that Dr Taylor turned the monitor towards him so you couldn't see it?
A. No, I'm not. I'm trying to explain to you --

THE CHAIRMAN: Sorry, as I understand what you're saying, you don't need to turn around and try to find where the camera is or where the screen is or what direction its facing in because Dr Taylor's doing that for you.
A. Yes.
THE CHAIRMAN: He's reassuring you on a very regular basis that the CVP is roughly where you want it to be?
A. Correct. That's why -- could I explain it to you -- that a surgeon would not expect himself to be responsible to look at a monitor because of what you've just demonstrated.
MS ANYADIKE-DANES: Sorry, Mr Keane. Firstly, there's two issues. I'm not sure that you have actually said that Dr Taylor himself was reassuring you that the CVP was normal.
A. No.
Q. We haven't moved into the territory of what Dr Taylor may or may not have been telling you about the CVP. Secondly, the issue that I was asking you was simply -- a very simple question -- whether you would be able to see the monitor. We're looking -- and how this developed was that your position was: actually, no you couldn't see the monitor because the drapes that would be between you and the child's face would be such that they were as high as a man and that would obscure your

vision. I thought that's what you were saying.

I believe one of these photographs shows a drape, and I was simply trying to see if I could show that. If you'll bear with me and we'll see if we can find that.

A. May I return to the point later?

Q. Of course. Try 300-048-066. There we are. There's a drape there. Are you saying that a drape in that position would obscure where the monitor was in relation to Adam's surgery?

A. Well, that's --

Q. That's the simple question.

A. The drape at that height may not, but the drape at the height that I want would.

Q. No, it wasn't a matter of the drape that you wanted; it was, (a), was there a drape --

A. Yes.

Q. Right. If there was, forget about where you wanted it, but are you saying, as a matter of fact, that it was at such a level that you would not be able to see the monitor in Adam's surgery?

A. In this case or in the photograph?

Q. In Adam's surgery.

A. Well, I can't -- couldn't say that with certainty 17 years after.

Q. So you don't know?

A. I don't know.
Q. Right. Thank you. Sorry to have trawled you all the way through those photographs. That was actually the one I was trying to find, but in any event, the upshot of it is that you don't know whether the drape was in such a position that you couldn't see the monitor? But your position seems to me that it didn't matter whether you could see the monitor or not because, actually, what you were relying on to tell you about the CVP was a communication that you'd have had with the anaesthetist.
A. That's exactly the point.
Q. Okay. We sort of dived off into CVP from the renal transplant protocol, which is where we started. What I wanted to ask you about that is at -- I understood you to say that you don't believe that you did read it just prior to Adam's surgery; is that correct?
A. If I said that, I would have said I can't remember whether --
Q. Oh, you can't remember?
A. There are two ways. What I said was I would be -- as I had taken care and set the child on the table and was happy with my position, that the child was in a position that I was happy with on the table, the next thing I would do -- and I remember this -- is we would go

across to where the anaesthetist ... And whatever personal arrangement he had with this monitor and we would look at the monitor.

Q. Sorry, you'd go across and look at the monitor, for what purpose?

A. For me to chat to him as if we're looking at wherever it is. Now, Mr Anaesthetist, we'll just go through this again. I'm going to want to slowly take the child up. You need to constantly keep me in touch with what's happening. Any trouble with the blood pressure, any trouble with the CVP. We agree the reading and are you clear? Do you want to ask me any questions? Are you all right on that? Just keep talking to me.

Q. When would that be roughly?

A. That would have been the exact moment, as I said to you, I would have attended Adam, made sure of the things I described to you, little things like the nappy, the catheter, and I would have gone over to the anaesthetist. And we would have sat and looked at the monitors or made clear to each other what each of us expected of us. We could have said something else, but the content of the conversation or the purpose of me going to see him -- because I'm obsessive about this -- is to yet again make it absolutely clear -- because other transplant surgeons may do it differently. I'm

giving clear instructions: keep me absolutely informed. And, by the way, Dr Savage is outside the front door, a minute away, if you have a medical problem.

Q. I'm trying to locate this in 1995. So we know -- so far as you can do it -- that knife to skin is roughly 8 o'clock or thereabouts.

A. Yes.

Q. When would you be having this conversation with Dr Taylor?

A. The knife to skin thing -- when you're micro-dissecting it, obviously as I understand it ... The first CVP recording --

Q. No, no, I'm firstly asking you when in the order of things would you be having this conversation with him.

A. As soon as Dr Taylor confirmed to me that he had a satisfactory CVP reading that he could rely on. And that's the point. He has to tell me that he --

Q. Sorry. I just want to make sure that, factually, we get things right so I understand them. Are you saying that you actually had this discussion with Dr Taylor?

A. It's my invariable practice to do so.

Q. Yes, that's a slightly different point.

A. It's so long ago. When you ask me under these circumstances ... It's my invariable practice and if I didn't have it with him, it would be the first time in

my professional career.

Q. I understand.

A. That's as far as I can tell you.

Q. That's fair enough. So you say as soon as he got the CVP that he was satisfied with, was I think how you had put it?

A. I don't put in the CVPs or are aware of the tricks and where the lines are. He has to confirm with me. So in other words, even if in a situation, say, that there was difficulty, I would say to him, "Are you happy now, is this all right?".

Q. Right.

A. "Is this a true reading of the CVP?", in other words. I wouldn't have said it in that way, I would have just said to him, "Have you got a working CVP which is accurate? Are you sure? Are you happy that you have?" Because it's the critical issue, as I described, of what I'm going to do. That and the blood pressure.

Q. Yes. Can I ask you why you have never quite described matters in that way before? You have made a deposition, which we've been through. You made a statement to the PSNI and you have made three statements to the inquiry. I stand to be corrected, but I don't think that in any of them you have described what you have now described in this chamber with Dr Taylor.

A. No.
Q. Why would that be?
A. Because of the very fact that you have alluded to. My image of that moment is that I -- my last image of Adam was looking at him, making sure that he would be all right and be properly attended to. I remember looking sideways. I assume at a monitor. And although I can't swear under oath that I had the conversation, I cannot think of any other thing that I would have had to say to an anaesthetist in that situation. You see, I'm asked to recall that image of me and an anaesthetist looking at something. And I assume -- rightly, I think -- that that was the conversation because I'm so obsessive about it. That that was a conversation that, yet again, affirmed to him what the management plan -- and that he was to keep me informed at all times as to what was going on.
Q. I appreciate that, but you have been asked about your communications with Dr Taylor and others. You know that CVP is an issue and all that I'm asking you is: why have you never before described exactly what you have described now? Even if it was, as you have previously said in your witness statements, "I don't know if this is actually what happened, I believe it would be", or something of that sort or, "I can't clearly recollect,

but this would be my practice". Why have you never provided that account before?

A. I'm not sure --

MR MILLAR: It is important that my learned friend should take the witness to the witness statement that she feels is unsatisfactory or on which he has given a different answer or he hasn't answered the question.

THE CHAIRMAN: Mr Millar, we can go through it very slowly if you want, witness statement by witness statement, but --

MR MILLAR: I think that would be best.

THE CHAIRMAN: Is it necessary? Is this set out? Is this set out in the way which Mr Keane has just taken the trouble to describe it in any of the witness statements?

MR MILLAR: Mr Keane has answered a very detailed series of questions. The questions were formulated by the inquiry, he's answered the questions. If a question was not directed in such a way as to elicit this evidence, that's not his problem; it's the fault of those asking the questions. If my learned friend is saying that he said something inconsistent or that this is different or that he had an opportunity to provide this evidence and he didn't take it, then perhaps it would be appropriate for her to take him to that.

THE CHAIRMAN: I thought he was explaining a few moments ago

1 why he hadn't said it in the way that he has just said
2 it orally. I understand from Mr Keane's answer that
3 he's not suggesting that he's set out in any of his
4 witness statements what he has just told the inquiry,
5 but he was explaining why he hadn't said it in that way.
6 Ms Anyadike-Danes, let's go to the statements if
7 Mr Millar wants to take us through them one by one.
8 MR MILLAR: I have no wish to delay matters, obviously, but
9 you have seen, sir, from reading these requests for
10 information, there's a whole series of specific
11 questions that have been asked and I'd be surprised if
12 the inquiry doesn't find that this witness doesn't say
13 that this witness has done his best to answer those
14 questions. Whether they were directed so as to elicit
15 evidence that he has now given is another matter, but
16 the overall effect or the impression that my learned
17 friend is trying to leave is that, in some way, he's had
18 a perfectly good opportunity in the past to say all of
19 this and he hasn't taken it. The implication being
20 there's some inaccurate or --
21 THE CHAIRMAN: I thought the complaints that were coming to
22 the inquiry were how detailed the witness requests were,
23 not that people hadn't had a chance to say in their
24 witness statements all that they wanted to say.
25 MR MILLAR: That's a different issue, sir. My point is

this: if it's being suggested to the witness that he was asked a question which ought to have elicited this information, but which didn't, then he should be taken to that.

MS ANYADIKE-DANES: No. Mr Chairman, if I can help. I haven't said that, what I have asked is: why haven't we seen this description before? And like you, Mr Chairman, I was under the impression that Mr Keane was explaining why he might not have described things quite like that. But in answer to my learned friend's concern, in most cases -- and certainly I'm looking at, for example, 006/2, page 17, it says at -- in relation to paragraph 31:

"Provide any further points and comments that you wish to make, together with any documents, in relation to: the care and treatment of Adam from his admission."

MR UBEROI: Sorry to interrupt. Might I perhaps assist with a separate reference, which would be 006/03, page 17.

MS ANYADIKE-DANES: Yes, I'm going to that. That was my next one, but the first was to say that if anybody felt there was a question that hadn't elicited some information that the witness thought was important, in most cases, there is a catch-all point right at the back saying: if there's anything else because, you after all, are the clinicians, that you furnish it. And you had

been telling us how important CVP was and so forth. I was just about to go next to the one that my learned friend has taken me to and let us go there now, which is, if one goes to 006/3, page 17. If you look at the answer to 33(b):

"State whether at any time during the surgery you asked the anaesthetist what the CVP was and, if so, state when and the response thereto. If you have no specific recollection state what your customary practice and reasons were. My customary practice is to ask if the CVP is up, not specifically a number, as the anaesthetist may need time to give a bolus of fluid. I tell the anaesthetist when I anticipate taking the clamps off 10 to 15 minute before release."

So there's absolutely nothing about: before we get started, we sit down by the monitor, look at the monitor, and we have a discussion about my expectations. If ever there was a place where you could have given that information, I would have thought it was there. So I ask again: is there any reason why you did not furnish the information to the inquiry that you are now giving?

A. Simply that I didn't interpret the question as the inquiry wanting that level of how it was done. And if I misinterpreted it and you wanted it, I certainly would have provided it. I thought that that level of

detail -- this is a statement that says, "This is the plan", essentially. The understanding of --

Q. No, no, sorry, Mr Keane. The plan, if that's what you're talking about, that's set out here is not at the stage where you were helping us with what your normal practice was. The stage when you were helping us about your normal practice is right at the outset when Dr Savage has got the CVP in, he's happy enough with the figure and you sit down and you have a discussion by the monitor about matters and I presume because you're sitting by the monitor that you can see what the reading is. But in any event, that's what you were describing to the inquiry. And the only reason I asked it is because it didn't seem to be exactly what you had put in your earlier witness statements.

Now that your counsel has raised it, I'm happy to go through each and every one of your three witness statements if you would like. But I don't think we have got the description in them that you have just given to the inquiry.

A. Well, as I ... I may have misunderstood the purpose of the process that I was in. I was asked -- and I thought that I would be giving evidence to an inquiry to help them and that this is essentially -- my customary practice is to ask if the CVP is up, not specifically

a number. I don't see -- "State whether at any time during the surgery". I didn't see that as being that you were looking for: what was I doing at the very beginning? Sorry. As I interpreted that --

Q. Mr Keane, sorry.

THE CHAIRMAN: I've got the point.

MR FORTUNE: We have had my learned friend refer to Dr Savage. She must mean Dr Taylor; there's no question of Professor Savage at this stage.

MS ANYADIKE-DANES: Quite right. It was a slip of the tongue. Thank you very much.

Let me put it another way. It cannot have escaped your attention that the communications between those who were in the operating theatre on all issues to do with Adam's care are an important issue for or area of investigation for the inquiry.

A. Yes.

Q. Would that be a fair thing to say, that you would have appreciated that? It only was a very simple question. Having appreciated that and having got a customary practice as what you do at the outset in relation to the anaesthetist, my very simple question is: why didn't you tell us that before?

A. Because I misinterpreted the question where you were coming from. Could I just expand?

Q. Yes, of course.
A. I have a particular way of doing it, as I described to you in detail, my own personal -- that's personal to me. I could imagine a scene where other transplant surgeons will come in and say, "We actually don't do that".
Q. Okay.
A. And as I read that, "State whether at any time during the surgery -- I didn't feel you were asking for the personal, mildly obsessive type plan that I tried to describe to you here to say: at any time, yes, my customary practice is essentially, yes, and watch the CVP. I'll let you know 20 minutes -- but not -- I didn't think you were asking my absolute --
THE CHAIRMAN: Okay, I understand. Let's move on.
MS ANYADIKE-DANES: Can I pull up 011-028-132? I take it, just so I don't misunderstand matters, that when -- if your customary practice as you say -- and you can't think of a reason why you wouldn't have engaged in it -- is when Dr Taylor is happy enough with the CVP reading, you go and have your personal plan, discussion, with him by the monitor. Does that mean you can see the monitor if you're by the monitor?
A. Well, you're asking me -- it's possible, but I don't -- yes. I assume ...
Q. Yes. This is the printout. Well, it's the compressed

printout.

A. Yes.

Q. But in any event, one can see where the levels are. And we can also see that the surgery started and proceeded. So in other words, according to your customary practice, you will have gone to the monitor and had a discussion with Dr Taylor and the surgery would have proceeded.

A. Yes.

Q. Yes, because we've got this trace?

A. But I wouldn't see that. That's a print.

Q. No, of course it's a print, but it's a print of what's coming over the screen.

A. Yes. It wouldn't be -- yes, I accept that. But it wouldn't be as clear in practice. For a surgeon to say that he would recognise what you're printing out compressed -- sorry, I apologise. The CVP is, essentially, an anaesthetic issue. I would have looked at the monitors rather than stared intensely because I would say to an anaesthetist, "Are you happy with your CVP?". I can't say that I would look at it -- if you see the squiggles that he's cleared -- as I understand what he was doing, was he was zeroing.

Q. Forget the zeroing for the moment. We're at the beginning of it. Okay? The zeroing happens after we've started. At the beginning of it, you'd have gone to the

monitor and had your discussion in accordance with your customary practice and the level would have been at a certain level. Okay? Sorry, so you would have seen that. So all I am saying --

THE CHAIRMAN: You're at the screen so you probably can't see it, but the question is: do you pay any attention to it?

A. But the communication -- I could have been looking at the screen and he tells me it's fine. The screens contain several lines going across. You'd actually have to say which one of those is the CVP. So it could have been to an anaesthetist, "What's his CVP?", "It's fine", "It's 5". It could have been --

THE CHAIRMAN: Let me get it right: your point is that the fact that the screen is visible to you doesn't mean that you yourself study the screen to get the reading?

A. Not if he's in a situation where he says -- say I go to an anaesthetist and I say, "Is the CVP all right? What is it?", and he says, "It's 5". I don't think that I would scrutinise the chart in a way to -- I wouldn't be ... In other words, I wouldn't be trying to double-check him on it. I would accept whatever verbal communication he gave as much as me trying to -- you know, there are certain things that are instinctive to doctors. You can look at a monitor, you immediately

focus on the trace. But he could have said to me, "Yes, we're fine, his CVP is 3", say.

MS ANYADIKE-DANES: Sorry, what was that?

A. He could have said, "Everything's fine, Adam's CVP is 3", say.

Q. 3?

A. He could have said it was 3. I'm just giving you an example. He could have said it was 5, I don't know. He could have communicated the CVP. Because essentially, you have to have some element of: he's the anaesthetist, he knows what to say, he tells me the CVP, I accept that. It could have been a verbal communication that everything was fine.

Q. Right. Just for the record, because something may turn on it later on, is your position that you could have been at that monitor, the monitor is showing its values, and you're not able to recognise what that CVP level is from looking at the monitor? I just want to be clear about that.

A. What I'm saying is that I may not have concentrated on the CVP if I received a verbal communication -- which is likely -- from the consultant anaesthetist that everything was all right and this reading that I wouldn't have a natural look at or I may not have focused on at the time -- we were looking at the

monitors: is everything all right?

THE CHAIRMAN: I think the question is slightly different. It's an entirely hypothetical situation. Let's suppose the anaesthetist isn't physically present for a moment or two. If you looked at the screen, could you yourself read from the screen what the CVP reading was?

A. Not naturally. That's not -- I would have to probably bring somebody in. You see, I wouldn't -- if there was a CVP tracing going on, no, I'd have to get -- for me to say Adam was not right, I would have to bring in an anaesthetist in to tell me, yes, that's right. As a surgeon, I know what CVP measurements are, but I -- you know, it's not --

THE CHAIRMAN: Sorry, you know what they should be, but that doesn't necessarily mean that you can read what's on the screen?

A. The calibration, as the line comes across the screen, the calibration is important. So how he -- the line is coming across and may look normal, but how has he calibrated it is the issue. So more than me saying -- I wouldn't rely on myself to look at an anaesthetic machine screen and tell somebody: that CVP is 3, 4, 5.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Thank you. I think we sort of have your position. There are, in the papers, pictures of actual

monitors and the screens and so on. Maybe we'll address that in due course.

When was the first time you appreciated that Adam's CVP levels were as high as 17, 20 and, even at one point, I think we can see, 30?

A. My recollection of it was that at no time did I recognise a CVP of 17 or I was told that Adam's CVP was 17 because that would immediately cause alarm. And I think -- I don't understand the actual things, but I believe there was a lot of zeroing and re-zeroing. So the position I'm trying to explain to you is, if a consultant anaesthetist is, if you like, twiddling the knobs and recalibrating, I personally wouldn't have, as the surgeon, the knowledge to say he was right or wrong. I would say to him: is everything all right? And what is that reading? What does that reading mean to you? Tell me.

Q. Yes, that's actually what I'm trying to get at, Mr Keane. Thank you for putting it that way. You did say there would be a discussion. When I had taken you to that relevant part in the protocol, and I asked you did that not imply that there would have to be an exchange between surgeon and anaesthetist about the CVP, you said: oh yes, there would have to be and that you would be constantly seeking -- not always a number --

sometimes you would have told him the number you want to achieve. But in any event, there would be discussion between the two of you about the CVP at differing or various moments during the surgery.

So what I haven't yet heard from you is, at any stage, what you were told about the CVP by Dr Taylor.

A. At no -- the problem in terms of trying to remember numbers ... At no time was I aware that Dr Taylor told me there was a number that would raise the alarm. The target CVP is 10 to 12.

Q. Yes.

A. Anything over that figure that he, as the expert -- zeroing and re-zeroing, confirming that he was happy that the CVP was normal and he looks at this and whatever way it comes across on the trace -- that's the problem for me in interpreting. Whatever way he says: yes, to me, that is the CVP. He has a working CVP that's reliable and there is a number, whatever. Anything under 12, I would have said that Adam was okay to go, although I think I would have asked Dr Savage at that -- because to put him asleep and have it reading anything over 12 or at 12 would mean that he was very full, the blood volume had become full. So I would check with -- actually, I would imagine that Dr Savage was there.

Now, I think I mentioned about a CVP. If somebody said a CVP, a discussion would take place as to whether that CVP represented the effect of mechanical ventilation --

Q. Just wait a minute. Don't let's dive into that. Let's stay where we are for the moment. I think you have said something like you wouldn't have wanted the CVP to be higher than 12; is that right?

A. I would want to start there. I would prefer that we had somehow or other managed to get Adam to the theatre in the physiological range, but Adam was complicated.

Q. Sorry, I'm asking you that so that I know that I've got a firm basis upon which to ask you something else. Does that mean, in this discussion that you're having with Dr Taylor, you would have been explaining to him roughly where you wanted Adam to be to start and roughly where you didn't want him to exceed as matters went on, and to alert you if he was doing that? Is that part of the discussion that you'd have been having?

A. Well, at the start, close to it.

Q. Yes, at the start.

A. Well, we would have gone through the plan at some stage in this, whether it was before we assessed the actual CVP that I was looking at, and if -- sorry, the question is if he came?

Q. No, no, I'm trying to find out, if you like, what you say would have been your customary practice to tell Dr Taylor about what you wanted in relation to the CVP.
A. Right.
Q. Both in starting and also not getting any higher than or to alert you if it did. That's what I'm trying to extract.
A. Sorry. I would have said to Dr Taylor that I wanted the CVP within a physiological range.
Q. Yes.
A. Anything between -- if you look in the normal -- between, say, 3 to 7 millimetres of mercury, acceptable up to -- I wouldn't have said anything above a CVP of 10, except the implication of it. If he told me that the CVP --
Q. No, no, forget what he told you --
A. I'm sorry.
Q. Let's just keep with what you thought you would have told him.
A. I'm clear now that I've told him that I want to see -- does he accept in his expert opinion that, whatever trace is there, that Adam has a CVP of -- within a range, and tell me what that is, what is his CVP, in other words.
Q. Sorry, we've --

A. No, I'm --
Q. It's all got a bit confused. Let's roll back a little bit. You're at the monitor having that discussion with him and I think you had tried to indicate where you sort of wanted him to start. Would you have actually given Dr Taylor a figure and said, "Look, I'd really like him to be starting with a CVP of X", or would you simply ask him, "What is his CVP at the moment?"
A. "What is his CVP?"
Q. Right. If you continued, does that mean you got a satisfactory answer to that question?
A. Yes.
Q. So whatever he told you, that would have been satisfactory for you to feel you could continue?
A. Yes.
Q. Also as part of that discussion, would you have told him a level that you really didn't want his CVP to exceed?
A. Um ... I doubt it, but I would expect him to know.
Q. Sorry, I'm at the moment dealing --
A. No.
Q. No, you wouldn't have?
A. Not that specific question, no.
Q. Did you tell him a range where you'd like the CVP to be?
A. As I had indicated in the treatment plan. As I had described it in detail to you that I would expect this

CVP to go to 12 at clamps off.

Q. At clamps off?

A. 10 to 12 at clamps off. So he knew the range that I would want Adam's CVP at 10 to 12, the implication of that is: never beyond that.

Q. That's exactly what I was getting at. So he would understand from that that you would not be wanting his, Adam's, CVP to exceed 12?

A. Yes.

Q. Okay. Is part of your discussion with him that if, for any reason, it was approaching that, that you'd be expected to be alerted to that?

A. In the way that I told you, that as it approached it, I want him to tell me it's approaching so that as it approached it, I would expect that I would have known it was -- let's say that it had started lower, it was 6, 7, 8, 9 -- I would expect to understand in my mind, without the need to look at a monitor, what was happening to Adam in terms of his CVP.

Q. Right. If I then go back to your earlier evidence, which you said that there was an exchange of information -- a discussion between you, this was an important area. During those exchanges that you say you would have been having with Dr Taylor, at any time, did he tell you that Adam's CVP had exceeded 12?

A. He did not.
Q. Did he tell you what his CVP was?
A. Well, that is the remove of time issue. He did tell me what his CVP was, but I can't tell you whether that was 3 or 5. The reason I say that is because I wouldn't have gone ahead with an operation unless he had told me.
Q. Sorry?
THE CHAIRMAN: This is at the start, you mean?
A. Mm.
MS ANYADIKE-DANES: So at the start, you think Dr Taylor told you that his CVP was somewhere between 3 and 5?
A. Yes, otherwise the operation couldn't start. Unless I knew what the CVP was as a number at the very start, so that I had an idea, the operation couldn't start. Unless I knew a number, a specific number that he regarded as being the true CVP, then the operation could not start.
Q. And have you addressed that in any of your witness statements?
A. Well, as you say, they're voluminous. I couldn't point to a witness statement that I had addressed it.
Do you have ...
Q. We'll just help you. Let's have a look at 006/2, page 13. See if that helps.
Maybe it's 20, right down at the bottom:

"Describe and explain any discussion in theatre in relation to CVP."

Let's go to page 14:

"Describe any action taken."

What you say there is:

"Approximately 15 minutes before I thought the vascular anastomoses would be complete, I would, in accordance with my customary practice, ask the anaesthetist what the CVP was and to preload the child if necessary. I do this in every case. However, I have no specific recollection in this particular case."

What it doesn't say is that you had a discussion at the beginning when you believe Dr Taylor might have told you that Adam's CVP was somewhere at 3 to 5. And shall we go on --

A. Sorry, I missed the point of the question.

Q. I said: what you don't say there is that you might have had a discussion right at the outset --

A. Yes, yes.

Q. -- with Dr Taylor where he might have told you that Adam's CVP was starting at 3 to 5. What you indicate to the inquiry is that you had a discussion -- or at least it would be your practice to have one -- 15 minutes before you thought the vascular anastomoses would be complete.

Can we go to page 13(f), I think? I beg your pardon, maybe we could try your third statement. 006/3, page 13:

"State if you were informed about Adam having a CVP of 17 at the start of surgery. If so, explain the significance you placed upon this. If not, explain if and how this would have affected your actions."

If we go over the page to your answer:

"I was not aware of this. If true, this reading may have been due to misplacement or kinking of the line or due to overhydration. Had I been aware, I would have asked the anaesthetist to ensure the CVP was reading truly 17. It is normal to subtract 5 from the reading in a ventilated patient. If it was truly 17, then seek medical input. I would have checked the position and flow in the line, and if this was a true reading, restricted Adam's fluids and considered giving a diuretic."

Dr Taylor's evidence -- and I'm sure his counsel will jump up if I've got this wrong -- has always been that the CVP started at roughly 17 and he has various views as to why it was that, although he has now admitted he was in error, but he's described in detail how he used that figure and, in fact, Dr O'Connor, who's a nephrologist that was taking over from

Professor Savage, has recorded in her witness statements an exchange that she had with Dr Taylor about the CVP being at 17 at the start and what he was doing about it and why he thought it was 17. But neither of them ever refer to a CVP that started off at 3 to 5. And in fact, one can't see that from this compressed trace either.

So I'm just asking you why you did not refer to a discussion between you where I think you're suggesting that Dr Taylor indicated to you that Adam's starting CVP was 3 to 5. Why didn't you include that in any of your witness statements?

A. Well, I may be confused about the point of the question, but if I -- can you rephrase the question?

Q. Sorry.

THE CHAIRMAN: If you look, doctor, can we go back and put up pages 13 and 14 together, please? The question at the bottom of page 13 is:

"Were you informed about Adam having a reading of 17 at the start of the surgery?"

Okay? Your answer today is no. And if it was even around 12, you'd have called in Dr Savage.

A. Yes.

THE CHAIRMAN: When you answered that question, you don't say: not only was I not informed about it being 17, but I was told it was 3 to 5.

MR MILLAR: Sir, if I may, very briefly: he does not say he recalls a conversation with Dr Taylor when Dr Taylor told him that it was 3 or 5. That has not been his evidence. He says he has no specific recollection of his discussion with Dr Taylor.

THE CHAIRMAN: That's not quite what he says, Mr Millar, because he said a few minutes ago:

"Did Dr Taylor say at any time that the CVP was in excess of 12?"

And Mr Keane said no. And he was then asked did he say what it was, and he said:

"I think at the start, he gave me a reading of 3 to 5 or else I wouldn't have gone ahead."

In this question, he's asked: was he told that the reading was 17. And on Dr Taylor's evidence, he could not possibly have told Mr Keane that the reading was 3 to 5. And Dr Taylor has said this is one of a number of things he got wrong during the process.

So what we're trying to work out with Mr Keane is two things. One is how he can say today that he was told at the start that there was a reading of 3 or 5 because, as I understand it, he now says the operation starting was dependent on that, unless I completely misunderstand his evidence. He says if he hadn't been told it was 3 to 5, he wouldn't have started the

operation.

MR MILLAR: My understanding, sir, from quite a lengthy piece of questioning about all of this is that he was saying that had he not understood that the CVP was within a normal physiological range, he would not have started. Certainly, I accept entirely what you say by reference to that part of the transcript, but he did definitely say earlier on that he did not, at this far remove from the day of the operation, remember the detail of his conversation with Dr Taylor. And certainly I didn't understand him to be saying: I remember speaking to Dr Taylor and Dr Taylor said it was 3 or 5.

THE CHAIRMAN: I'll look at the transcript this evening and make my own assessment of it.

But Mr Keane, the concern is here that your answer to the question, "Were you informed that it was 17?", you say you weren't aware of this. But your recollection or your best guess is that you couldn't possibly have been told that.

A. I think that's the point I'm trying to make. I could not possibly -- you can accept a start of an operation at 3, 4, 5, 6, 7, 8, 9. 17 says to you instantly, as a surgeon, that there's something wrong here. Either there's a line problem, there's a fluid problem, there's

something wrong. A child -- you see, it's difficult to say because, reflexly, you have numbers and ranges in your mind. What alarms you is anything outside the normal. Let me --

THE CHAIRMAN: In fairness to you, you do say in that answer that if it was 17, then you would seek medical input from Dr Savage.

A. Absolutely.

THE CHAIRMAN: So that bit is consistent. I interrupted.

MS ANYADIKE-DANES: And not only that, Mr Keane, according to your evidence you must have had a response from Dr Taylor that was within what you considered to be the acceptable band of CVP, otherwise you wouldn't have started the surgery. And just so that we're absolutely clear about it, what is that acceptable band, as you start?

A. As I start, I would be happy to start within a range of 3 to 7. It's a compound answer. If it was above 8, I would start to wonder in my own mind: has Adam had too much gastrostomy feed? Anything over 12, the alarm bell -- anything over 12 in a child like this, the alarm bells would go off in my mind.

Q. So you couldn't have been told anything like that, otherwise you wouldn't have started.

A. The operation can't start until I'm happy.

Q. Thank you very much. Can't start until you're happy.
A. With the numbers that I've described and in that range that I'm told that there's a working CVP and that there is a number to that CVP in a range from 3 to 7 or 8.
Q. Which you have to be happy about. So it's not just a matter of saying, "Is his CVP okay?"; you have to know that it's within that range because those are the numbers you're looking for and "We're not starting until I'm happy about that".
A. That's right.
Q. Thank you very much indeed. If we can move back from that, we were almost at the very start of his surgery, because --
THE CHAIRMAN: If you're going to move on to something else, we'll give the stenographer a 15-minute break and then we'll run from 3.30 to 4.30; okay? We will finish at the latest at 4.30, perhaps a little bit earlier.
(3.15 pm)
(A short break)
(3.32 pm)
MS ANYADIKE-DANES: Mr Keane, we have been dealing with our substantive issues, but they arose out of the consideration of the transplant protocol. I would just like to finish with one question in relation to that transplant protocol, and that is: you say you looked at

Adam's medical notes and records that morning before you went into theatre. Was it on his medical notes and records, did you see it there?

A. Not to my recollection.

Q. Not to your recollection?

A. No.

Q. Okay. I wonder then if we can move to try and get ourselves back into chronological order and go back to before the offer of the kidney when Adam was first placed on the transplant register. Did you have any -- or any other transplant surgeons, so far as you're aware -- have any role in any form of assessment in putting Adam on the transplant register?

A. Not to my knowledge.

Q. Have you ever done that before? I think before Adam, you had been involved in -- and perhaps directly carried out -- four paediatric renal transplants. In relation to any of them, were you ever involved in some form of assessment or participation in the decision-making in putting those children on the transplant register?

A. Not to my knowledge.

Q. I understand that. Do you do that with your adult patients?

A. Yes.

Q. And if do you it with your adult patients, why are you

doing it with them?
A. The system in 1995 was essentially urologists who could transplant working hand-in-glove with nephrologists.
Q. I'm so sorry, could you keep your voice up?
A. The system in 1995 was urologists who could transplant worked with the nephrologists.
Q. Yes.
A. The nephrologists assessed them. We would only assess a patient for entry on to a transplant list if the nephrologist thought he had a urological problem that needed to be looked at. They took charge of putting the patients on the register.
Q. So there were limited circumstances in which you would do that in an adult situation, if I can put it that way?
A. More circumstances in an adult than a child.
Q. Thank you. Did you know about the transplant booklet that Professor Savage says was provided to children?
A. Yes. I was aware of the booklet.
Q. Can we pull that up? Witness statement 002/3, page 127. Sorry, could we pull up 002/3, page 127? There we are. You say you were aware of the booklet. Were you aware of the booklet prior to Adam's surgery?
A. I was aware of this booklet in -- of the fact that it existed and I had read it at some stage, but would have retained no specific memory of the content.

Q. I understand. But had you read it or were you aware of it before Adam's surgery?
A. I was aware of it before Adam's surgery.
Q. Yes. Can we look at literally the first sentence after "What assessment is necessary?"
A. Yes.
Q. "Placement on the transplant waiting list follows discussion with the kidney specialist and transplant surgeon."
A. Yes.
Q. Can you help explain why there wasn't that sort of discussion prior to Adam going on the transplant waiting list?
A. That reflects how they did this procedure in Nottingham, I think it's from, is it?
Q. Yes.
A. How they were arranged. Both in the Hammersmith and in Belfast, when I came here, so that working within a system, that system essentially felt that the nephrologists knew the patients very well and that the transplant surgeons had -- in terms of the selection to go on a transplant is quite a difficult ethical issue and that the transplant surgeons would take the lead from the nephrologist, was the way we practised both in London and in Belfast.

Q. If we leave London for the moment and focus on Belfast, you're right about this essentially being a document that originated in another centre. But the fact is, Professor Savage has said that this is the document that is provided and made use of in the Children's Hospital to be given to the families of the children --
A. Yes.
Q. -- so they would understand how the process would work. So effectively, it would seem that the Children's Hospital has adopted this document rather than going out and working out their own document, if I can put it that way.
A. I think so.
Q. Having said that, the very first sentence about what assessment is necessary refers to a discussion between the kidney specialist, whom I take to be the nephrologist --
A. Yes.
Q. -- and the transplant surgeon.
A. Yes.
Q. And all I'm asking you, since you knew about this document, is why would such a discussion not take place between a transplant surgeon and Professor Savage before Adam was put on the transplant waiting list?
A. Custom and practice.

Q. Do you know -- well, maybe it's asking you to speculate, but help us if you can, and if it involves speculation and you don't wish to go down that route, so be it. But this indicates that another centre thought that that was an appropriate discussion.
A. Yes.
Q. Obviously, whatever else is in the document, Professor Savage has considered this to be a helpful and useful document to provide to the parents of his patients.
A. Yes.
Q. So can you help with why it might be that anybody thought it was a useful thing to have a discussion between the kidney specialists and the transplant surgeon?
A. Well --
Q. Sorry, prior to putting the child on the transplant waiting list.
A. For two reasons. One, to discuss the surgical aspects and, secondly, if there were specific surgical issues related to the transplant.
Q. Yes. And if that's the case, do you consider that to be a useful thing to happen?
A. I do.
Q. If it is useful, is there any reason why it shouldn't

have been custom and practice in 1995 in the Children's Hospital?

A. There was no reason.

Q. I understand. Would you have thought it to be a helpful development if that had been part of the practice?

A. I support it fully, wholeheartedly. This is the point of perhaps training a specialist surgeon, as I mentioned earlier this morning, but yes, I would wholeheartedly --

Q. Wholeheartedly?

A. Mm.

Q. Having said that you would support that wholeheartedly, you have also said in your witness statements -- and we'll go to them -- that nonetheless you felt that Professor Savage was more than capable of making the decisions that have to be made at this stage.

A. Yes.

Q. So if you felt that, why do you still think it's a useful thing to happen and one that you'd support wholeheartedly?

A. Because you practice surgery and worked in systems, but you obviously were looking around to see how things could be improved for your patients. I was always fully committed to the idea that transplantation was a specialist procedure to be done by specialist surgeons. I just happened to work in the NHS at a time

in the system that I experienced, which was that the nephrologists were the primary carers. They knew the patients and that they would make the decision, but had on hand the facility to -- if the patient had any particular problem -- urology, cardiology -- to get them assessed that way and then, once the patient was safely assessed, it was the nephrologist who put them on the list.

In Adam's instance, as Dr Coulthard has said, he was the kind of patient you wanted or you'd expect to see, but if Adam had a stone in his kidney, you would naturally expect Dr Savage to refer him to me, and had I gone over, having looked at Adam's X-rays, for instance, because I wasn't aware of him, but the assumption was that he is okay, that I would deal with the kidney stone and I would tell Dr Savage not to put him on the list.

That was the system, that it was nephrology, consultant, various specialities, and then when they were happy that the patient was fit to go on, the patient was put on the waiting list.

Q. Yes. But what you said just a little minute ago was that actually you would support wholeheartedly a process that involved the kidney specialist and the transplant surgeon having a discussion about the child before the

child went on the transplant waiting list.
A. Wholeheartedly.
Q. What I'm going to ask you is: did you ever raise that with Professor Savage?
A. Yes, that was the point of the conversation earlier about -- this was the whole point about the transplant with Mr Boston, that we would --
Q. Sorry, can you speak up?
A. The point of Mr Boston having a look to see how he would look at it. The real issue was that the surgeons would get older, but they would have some look to see: could Belfast do this system, which would be a ... Which would be a better model of care for patients, that a specialist transplant surgeon to deal with children would be appointed in Belfast and that I would either support him or pull back, if you know what I mean --
Q. Yes.
A. -- from the system, but that somebody who wasn't -- who didn't have the other practice that I had would now focus on the -- he would be selected to focus on the development to this system, as written here, but that was not the custom and practice in Belfast.
Q. No, I understand that. But even before you got to the stage where you had got some sort of specialist paediatric surgeons trained up to do transplants, even

before you got to that stage there was yourself, obviously, and there were other urologists who were carrying out paediatric renal transplants. So at that stage it would have been possible, would it not, for you to have developed a practice whereby you and your other colleagues carrying out those transplants could have been meeting with Professor Savage and discussing patients before they went on the transplant waiting list? That would have been possible, would it not?

A. It would have been possible.

Q. And so then, the real point of what I was asking you is, given that that would have been possible, and given that you did discuss it with Professor Savage, why didn't it happen?

A. Again, custom and practice. We were both aware of our abilities and --

Q. Sorry, what does that mean?

A. Well, we both recognised, I think, that we were competent, we had grown up, if you like, in a system which we were used to. It was custom and practice to do it the way we did, and we were looking how to develop the service, how to make it better. But it wasn't going to be Mr Keane that was going to take it on because I had other commitments in my surgical career. It was going to be somebody else, somebody we would look at or

the possibility that the general surgeons would do it, but that I would be there and I fully support Dr Savage.

Q. Yes.

THE CHAIRMAN: I've got the point, I think you can move on.

MS ANYADIKE-DANES: Thank you.

Can I ask then, leaving aside the generalities of you thinking that you would support such a development, if I can put it that way. If that had happened, what are the aspects of Adam that would have been the subject of discussion between a transplant surgeon and the nephrologist prior to him going on the waiting list?

A. Basically, I'm slightly confused -- if there was a transplant surgeon, he would assess Adam independently at an outpatient clinic. But if you were to say: was there to be a telephone conversation, I'm not -- can you set it --

Q. I'm not saying that. I think if we just take it in stages. It's my fault for not putting it clearly. Firstly, I think we have got that you think it's a good idea that that sort of thing happens, first of all.

A. Yes.

Q. Secondly, you have, I think, conceded that even if you haven't got your trained up specialist transplant surgeon, nonetheless there were adult transplant surgeons involved in adult transplants who did carry out

paediatric transplants who could have been involved in that kind of discussion and you yourself were one. So what I'm asking you is: if that procedure was in process, so in other words that the surgeon was discussing with the nephrologist prior to Adam being put on the waiting list, what are the features of Adam that would have been the subject of that kind of discussion? Sorry, I didn't put it very clearly before.

A. It's me, I think. Well, in general for any child, if you were discussing it, you would discuss his centiles, you would discuss his medical condition -- which, for an adult surgeon to try and assess you'd rely entirely on Dr Savage -- and you'd discuss any surgical issues, for instance like did he have this kidney stone or not. You would discuss the situation with the family and the transplant issues for the family. And essentially, in transplantation, this is an evolutionary process of trying to get information not on a single hit, in a single phone call, but an overall view of: what was the problem that we're dealing with?

And obviously, for a patient like Adam, the problem is that he could become acutely unwell very quickly, say from a simple bout of diarrhoea because his kidneys keep going, and the risk to the child. Is this some form of elective transplant in which you might say: actually,

the indications for surgery are, essentially, absolute: in an emergency, imperative -- there's a need -- or relative. Is this a relative or imperative?

Q. And what would have been your view about that?

A. On the borderline. Adam had a serious problem. Although he was well, his kidneys had a fixed urine output. Now, if he got a bout of diarrhoea, vomiting, he dehydrates. If you do that, your kidneys will start to conserve water for you. You'll pass less urine. Essentially, you will conserve your own water. In Adam, unfortunately, his kidneys had lost that function; they just kept going. The 80 ml an hour -- whatever the agreed figure -- even though he needed now to pull back and come down to maybe 20 or 30 ml an hour, he had no -- that's his problem. He had no capacity to do that.

So although the concept of Adam being very well and issues of that which I didn't get a chance to discuss, in Adam's polyuric case there was something stalking him: the fact that he would end up, from a simple infection, a dead patient, a dead statistic on a transplant waiting list.

On the other hand, if you had somebody who had another disease, but was stable and was happy, there would have to be a discussion about his schooling, how do the family feel about this, what was the family's

assessment of the risk to their child that something might go wrong vis-a-vis the improved quality of life, psychology, which I'm not -- and all of those issues. But for Adam, I would have regarded him as being at significant risk of the possibility that a simple infection to another child would actually kill him because of the way his kidneys functioned. If I was discussing Adam, therefore, I would place him on the border, but probably lower imperative.

Q. Probably lower imperative?

A. You'd have to discuss this, but imperative nonetheless.

Q. So that would be part of the discussion you would have?

A. Mm-hm.

Q. Would there be a discussion about the actual form of the surgery, whether it should be cadaveric or living donor, if one was available? Is that part of the discussion?

A. You could have it as part of the discussion, but I think with Mr Keane, I wouldn't dream of a live donor procedure on Adam Strain.

Q. Why?

A. You have to be a close relative, maybe his mother. I would discuss this obviously, with her, but the reasons would be if something happened to Adam's mother --

Q. And the risks of that would be?

A. Very low, but this is a consideration, that she might die. Living donors have died, or that she would have a major complication of a major operation and be seriously impaired in her ability to bring him up. Furthermore, the size of her kidney as distinct from the size of the adolescent kidney that he was to receive --

Q. Can we pause for a minute so I understand that? Are you saying that there would have been a material difference in size between the 16 year-old donor kidney that Adam was ultimately offered and his mother's kidney?

A. Absolutely, yes, as an urologist conceptualising this debate, yes, a huge difference.

Q. Significant?

A. Sorry, I do apologise. A significantly surgically important difference in size.

Q. To affect risk?

A. No, to affect the type of procedure.

Q. To affect the type of procedure?

A. Mm.

Q. And if it doesn't affect risk, but there are other benefits, is that not part of a discussion that you have?

A. Yes, but the issue for Adam in a live donation is his weight and the potential size of his mother's kidney -- which you can assess -- but if you're looking at it,

you're talking about a small child taking a larger kidney with a -- he has to work harder to drive it. There would be significant disparity in Adam's own capability to, if you like, drive the kidney from coming from a 16 year-old as coming from an older adult. I don't know what age Mrs Strain would have been there.

He also would have a placement issue, in my opinion, which would be that you would have to consider an aortic placement of this particular graft which was, in my opinion, a very, very ... An aortic graft to me in Belfast would -- no, you were going over to Mr Koffman in Guy's if I thought that that was the issue.

And then, of course, you would, in live donation, you'd say to the mum, "Are you happy with Adam and he's good and he has been well looked after and there is this risk that he might get acutely ill. Do you want to postpone the live donation issue that you're talking to me now about on to some future date, say when he's 7, 8, 9?" So all of that type of issue would have to be --

Q. Would be discussed?

A. Yes. Live donation would be a very significant issue, yes.

Q. Yes. And --

A. I suppose I should say that you would definitely discuss -- we would definitely, as urologists, have the

final say in the live donor programme. There would be no question of the -- the difference is that you would ... a nephrologist who was happy and experienced would feel comfortable, I think, putting a patient on for a cadaveric donation. But for a live donation, there would have to be extensive discussions on those -- I haven't delineated them all, I'm just demonstrating that those are the types of issues.

Q. Had any live donations actually been done in Belfast in 1995?

A. Yes.

Q. For children?

A. No.

Q. Had they been done in other centres in the UK for children?

A. I would say -- you see, I don't know because I never worked in that type of unit that, say, Mr Koffman works in, but I'd be surprised if he didn't.

Q. And is that something else that might have been considered? If one thinks of a live donation and thinks: well, at least it's a planned procedure in the sense of you know when it is going to happen so you can do other sorts of things around the fact of that certainty. Could that have led to a discussion about whether Adam might have had his transplant done at

another centre?
A. Oh yes. In terms of live donation, if somebody had sent Adam and his mum to me, the position -- we would discuss, as we discussed, and Mrs Strain said, "I really want -- I've heard your advice but I would like to explore further with an expert", because I definitely would not do it. I would have discussed it, and you can have it done, I think. I'd have to look it up at this remove, but I think I would refer her to Guy's and say: talk to the transplanters over there.
We weren't -- we didn't have the capacity to do every transplant, but he genuinely had the insight to do what we were doing.
Q. I understand that. You weren't set up to do a transplant like that for a child of Adam's age.
A. You might consider a live donation in Belfast if Adam was alive beyond 10. You might, yes. But not -- you'd have to make a judgment call.
THE CHAIRMAN: At that time?
A. If Adam and his --
THE CHAIRMAN: Do you mean you might consider it now or you might have considered it --
A. I might have considered it in 1995.
THE CHAIRMAN: Okay, thank you.
MS ANYADIKE-DANES: We're still slightly hypothetical and

I apologise for that because, of course, none of this was actually discussed with you involved, if I can put it that way. If you were aware of the fact that the mother wanted to consider it, then the very thing that you have been exploring with us as the sorts of issues, is that the sort of discussion that happens with the mother so that she understands the pros and cons?

A. If I knew ... I would expect a referral -- I work in a different hospital. I would expect a letter from Dr Savage to arrive on my desk saying --

Q. Let's pull up, in fairness to you, so that you have it, if we go to reference 001/2, page 5, I think it is. There we are.

THE CHAIRMAN: Question 25?

MS ANYADIKE-DANES: Yes. It's 25. It starts with:

"Other treatment options. Did anyone discuss with you the possibility of carrying out Adam's renal transplant at a hospital other than RBHSC? No."

THE CHAIRMAN: Sorry, this is a statement by Adam's mother.

MS ANYADIKE-DANES: Sorry, I beg your pardon. I should have prefaced it by that. This is Adam's mother's second statement to the inquiry dealing with this very issue, amongst other things. At (b):

"Did anyone ever discuss with you the possibility of using a living donor?"

And she says:

"I asked if I could donate, but as a single parent, this was not allowed. Apart from that, there was no other discussion on a living donor."

And so what I'm trying to explore with you is: if a parent has expressed that view that they would like to do that, is there then or do you think there should have been a discussion in much the same terms as you have been raising here about the pros and cons?

A. If I knew that she had wanted -- let's say I knew on the night of this thing that there was an issue; right? Then, of course, I would cancel the transplant and I would -- I would cancel the transplant. There are huge ethical issues about transplantation. Say I get a phone call at 5 or 6 and Dr Savage said to me, "I've got a patient, but actually the mother's querying", look, forget it. It's not right. You come along and she comes in at 9 and I get a phone call and say, "There's a couple of issues she wants to you talk about", I'd go straight to her and waiting until the cross-match time -- one o'clock or whenever it is -- to see if this thing is going to go ahead.

Q. Sorry [OVERSPEAKING] that last bit.

A. I do apologise. So if you look at the stages of the actual situation, a consultant nephrologist gets on to

me and says there's an offer of a kidney -- so a potential -- but the mother is unsure. No. If we go ahead and say we set it up and I get a phone call after the mother's come in and she's informed some member of the medical staff that actually she's unsure or would like to see me just to reassure herself, I would definitely go and talk to her. But my general attitude is: if a patient is about to undergo a surgical procedure and has any doubts for any reason, no matter how small they are -- the problem now is if I got that phone call, I would say her counselling hasn't been right and I would immediately say to myself: I'm not happy here. I have been put in a situation -- okay, I haven't been put in a situation -- but this is a situation in which perhaps there is a -- the counselling may not have been right and I would have gone to her, spoken to her, and if she said to me, "I'm sorry, you have reassured me and I'm definitely now committed", yes. Any lingering doubt, I would say no.

Q. That I understand. And what you're referring to is the evening before the surgery?

A. Mm.

Q. I'm at a slightly different time frame, if you like. I'm at the time frame when there is a discussion going on about putting Adam on the transplant list. In fact,

I think there wasn't actually very much of a discussion going on. I think that Professor Savage had thought that Adam should go on the transplant list almost contemporaneous with him being put on the dialysis. But leaving that aside, what I was exploring with you are the sorts of issues in which a surgeon might become involved at that stage because you had already said that you would actually endorse a process in which a surgeon was involved at that early stage. And one of the things I had raised with you is: what about the question of a living donor? And I think that that -- that's how that issue introduced itself, or I introduced it, rather, and you were then going on to tell us about some of the pros and cons of it, and so my next stage with you is: those pros and cons that you've been describing to us, are those the very things that you would contribute to the discussion about putting Adam on the waiting list?

A. Oh yes.

Q. Thank you. The other thing I wonder if I could move into, I had raised with Professor Savage -- and I think, in any event, you will have noted it from the opening and also from the experts' reports, an issue as to multi-disciplinary teams and the benefit of them, so the enquiry's experts consider, of meeting and discussing

the plan once the child goes on to the transplant list.

I wondered if you had any thoughts about their value and -- well, just that really.

A. I think they're incredibly valuable. I think it enhances the patient experience, gets a group of people together who will learn and move forward in the discipline that they are attached to.

Q. From the point of view of the inquiry's experts, the members of the -- the multi-disciplinary team would include the surgeon.

A. Yes. Definitely.

Q. You endorse that, do you?

A. Oh absolutely.

THE CHAIRMAN: A surgeon, you think, rather than the surgeon?

MS ANYADIKE-DANES: I beg your pardon, the chairman is correct. That's part of its value. You may not know who the surgeon is going to be, so you have a surgeon help you formulate plans and so forth.

A. I would think in the context, the surgeons. It's unlikely that you'd be setting up an MDT with a single surgeon being the provider. Surgeons.

Q. Yes, surgeons, indeed. And so I think you had indicated that you thought that would have been helpful?

A. Yes, absolutely, yes.

Q. That didn't happen for Adam, did it?
A. No.
Q. Can you think of any reason why it wouldn't?
A. Yes.
Q. Which is?
A. The multi-disciplinary team concept in 1999 [sic] was fledgling other than in big centres. Most clinicians like myself were very much in favour of it, but there was no particular funding for it. I founded the cancer MDT which is the only MDT the National Health Service funds and makes mandatory. That may be a change statement, but for instance if you were to set up an MDT, there are huge issues as to the timing of it, for instance. A surgeon, a nephrologist might have a clinic on the day that you select an MDT. And this process, I think, is fantastic, but it needs to be resourced to be fully recognised as to how the NHS -- and I think that is how they recognise the NHS is going to develop. As I would have seen, my career in transplantation is one of evolution: always trying to get a better, more organised service.
THE CHAIRMAN: Sorry, just one second. When did you found the cancer MDT?
A. It'd be about the two thousands.
THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I think you were saying, in 1995, at the time of Adam's surgery, MDTs would be something that existed in the larger transplant centres, but it was not a feature in Northern Ireland; is that right?

A. That's right.

Q. Is that just a factor of the fledgling paediatric renal transplant service?

A. Well, it is and the size of the unit. The individual components of the multi-disciplinary benefit to a patient existed in Belfast in disparate areas. The purpose really of an MDT is to get the service organised to get the groups of clinicians treating the various diseases that might benefit from an MDT together and then let those people, look at how a service should be configured, inform the NHS and then let's try and get it together, get research going for the benefit of the patients. But in 1995, the multi-disciplinary idea was essentially starting rather than established, certainly in the smaller Belfast-type units.

Q. Yes. You see, Professor Savage thought that he had that, actually. He says at his witness statement 002/3, page 19, I think it is -- he, I think, is saying ... If we can start with (c) and then go on to (d):

"The multi-disciplinary team consisted of the renal nurses, the senior nurse at that time, the dietician. I

can't recall the name of the social worker, nor the clinical psychologist. The two medical members of the multi-disciplinary team would have been myself and Dr Mary O'Connor."

If one goes to (d):

"The transplant surgeon did not participate in these multi-disciplinary team meetings, except by special arrangement, as he worked not on the Royal Victoria site, but on the Belfast City site."

So Professor Savage has grasped and is utilising, according to him in 1995, multi-disciplinary teams. There's even a facility for involving the transplant surgeon. Can we just go back to page 19? There's even a facility for involving the transplant surgeon in them. All he says is because that transplant surgeon worked on the Belfast City site, that person would have to participate by special arrangement.

Since you thought it was a very good idea, what I'm going to ask you is: what sorts of arrangements were you -- well, certainly you and maybe also your colleagues, if you know -- prepared to make to try and facilitate those multi-disciplinary team meetings that you've endorsed?

A. Well, what you would want to do is go to your hospital and say, "I need Thursday afternoon off and I'm no

longer going to operate on the patients that I had routinely operated on on a Thursday, and can I have permission to do so?"

Q. Did you do that?

A. Did I do that?

Q. Yes.

A. No.

Q. Why?

A. Because, as I said, in my opinion, the issue was that I had several roles. I was a urologist, an adult transplant surgeon, I was helping this -- can I expand a little bit? The members of a multi-disciplinary team that are essential are called the "core members". I didn't feel that, in my practice, I was doing anything wrong by saying I just could not cope with the workload, which now included a formal giving-up of something or changing so I could be at a children's MDT whenever they decided that that would happen. But that would not be regarded, in 1995, as something unusual.

Q. No, I'm just trying to find out your position. So you think it's a very good idea, you wholeheartedly endorse it, but I think what it's coming down to is a resource issue?

A. In my opinion, it was pure resource.

Q. Is that something that was discussed? If one wanted to

develop that paediatric renal transplant service, that's the sort of direction you would have to move into?

A. Yes.

Q. Thank you. Leaving aside whether they could have taken place in quite that way, although clearly Professor Savage seems to think there was a means by which the transplant surgeon could have been involved -- actually, maybe I'll turn it around and ask a question. Do you accept that there was a means by which a transplant surgeon could be involved by special arrangement?

A. Yes. That is the very crux, by special arrangement, not by funding.

Q. I understand that. But that could happen?

A. It could happen, yes.

Q. So far as you know, did it ever happen?

A. To my knowledge, no.

Q. Thank you. Moving on then to what might be happening. Mr Forsythe and Mr Rigg have spoken in their report about how -- one of the things that could be happening in that period before there was an offer of a kidney is a discussion and a development of a plan for the surgery, when that offer hopefully is made available or is made. What I want to ask you is if there was any sense in your discussions with your colleagues

in relation to paediatric renal transplants of the development of a plan prior to the actual offer being received.

A. A personal patient plan?

Q. Sorry, for the patient.

A. For the very particular --

Q. Yes.

A. For Adam?

Q. Yes.

A. No, I had no --

Q. Before we get to Adam, I meant in general first and then I was going to come to Adam. Were you aware of that as a practice?

A. Oh, I was -- not in Belfast, but I was aware. That would be a good practice.

Q. That would have been good practice, but it didn't happen in Belfast?

A. That would have been a good practice.

Q. But as I say, I put to you, it didn't happen in Belfast?

A. No, it did not.

Q. And it didn't happen with Adam?

A. It didn't happen with Adam.

Q. Then just so that one sees the force of it, Dr Coulthard said in his report of November last year, it's at 200-007-113 -- I will just read it out:

"One important role of having such a meeting and an assessment by a transplant surgeon and paediatric nephrologist is to formulate a specific plan for that particular child and to record it in their case notes. The importance of this is that it may not be that particular surgeon who is available to operate at the time a kidney becomes available and it allows a calmly considered plan to be used at the time instead of considering those details under a last minute time pressure."

Would you accept that?

A. I accept that.

Q. Do you think, when it came to 26 November and the offer actually was received for Adam, was there time pressure in order to try and develop the plan for what would happen with him in surgery?

A. Not in that -- there was time pressure about the consent and getting him ready, not to plan about surgery, as I would see it.

Q. But there was time pressure about consent and getting him ready. What does that mean exactly?

A. Right. I was wrong at whatever time you accept, and I discussed the following issues with Dr Savage, that he had a patient, to the best of my recollection, that he thought very firmly was in need of a transplant

procedure. That was his personal opinion.

Q. I understand.

A. And that the child was, as far as I was aware from the conversation, well, that he had a disease problem, I confirmed with him, which would be consistent with renal failure, and also that I convinced myself that Adam in the situation that I found myself -- that I considered his risk of death, his risk of unexpected death was the thing.

Now, I couldn't quantify it, only from the physiology, that he was polyuric. That means I'm -- it's bread and butter to a urologist. That means the child is at risk of dying from an acute illness which another child would survive, but that may never have happened to him. Now what do you do? Well, I considered our situation. I knew who we were dealing with and that we had a hospital of renown, the facilities to do it, the nephrologist to partner me, and me. What would I do if that was my child? I thought on balance that if Professor Savage said to me, "This is the child", then, yes, ethically I could -- yes, I would do it.

THE CHAIRMAN: You're saying that almost as if he had to talk you into it.

A. No, I'm not, no. That's completely the wrong --

Professor Savage and I both faced the same issue; he didn't talk me into anything. UKTS essentially, Mr Chairman -- a recognised body -- rang him and he had to consider his opinion on this issue.

THE CHAIRMAN: Okay.

A. And I had to consider my position. No decision about Adam in my opinion was taken without the two of us.

THE CHAIRMAN: Right.

A. In my opinion.

MS ANYADIKE-DANES: I understand. We're going to come back to that in a little while, but what I was exploring with you was -- it actually came from Dr Coulthard's view that a real benefit of being able to have meetings such as were being discussed and which you have endorsed is because you can formulate a plan. Now, obviously sometimes plans have to get adjusted, but you can formulate a plan that is at least there on the notes and that can be considered and, if appropriate, proceeded with rather than, as he put it, considering these details under a last minute time pressure.

I asked you whether, on 26 November, when the offer came, there was any time pressure. And I think you were indicating that there was some sort of time pressure in relation to the issues of consent and the preparation of Adam. So my next question to you is: could you

explain that?

A. Well, the decision that both Professor Savage and I faced was he knew Adam and I knew he knew Adam so intimately and had cared for him. We both knew this position we were in, this lack of time and a plan, but I would have said that Maurice -- if a plan was to be made, that plan would have been Professor Savage's.

Q. So what's the time pressure?

A. To accept the kidney, sorry. Glasgow is waiting on this decision. You know, the kidney -- there isn't time pressure like that, but this is a 16-hour kidney. In transplantation terms, this is a very, very good kidney.

Q. Sorry?

A. In transplantation terms it's a very, very good kidney as a surgeon or anybody would look at. And the issue, as I understood it -- and I'm not sure if this is correct. This was its final offer, we could have sent it to Europe. So we had a decision to make and now you have to make it.

Q. Actually, you had another patient right there?

A. That was another -- because of Adam, I can't even recall this second ... But I understand there could have been. Professor Savage could have had three.

Q. Yes.

A. But the issue was the first decision to be made in this

process was a discussion between me and Professor Savage. I clearly understood what was being proposed. I knew that if you look at it another way, if there was a management plan in the notes, Professor Savage would have written it in that way. Now ...

THE CHAIRMAN: Mr Keane, I want to get clear the two points you made. There was a time pressure about consent and a time pressure about getting Adam ready. That's what you said.

A. I think I would like to qualify or strike that out in terms of what I'm discussing with you, if I can.

THE CHAIRMAN: Sorry, strike out both of them or one of them?

A. Can you read what I said?

THE CHAIRMAN: You said, in answer to Ms Anyadike-Danes, there was no time pressure to plan the surgery, it was only time pressure in relation to consent and getting Adam ready.

A. I would like to rephrase that as: the time pressure in this was to make the decision to accept the kidney or not.

MS ANYADIKE-DANES: So there wasn't any time pressure about getting him ready?

A. Well, from a transplant -- can I ...

THE CHAIRMAN: Take your time. We're going back a long time and I want you to get your evidence clear so that I understand it.

A. Instinctively, you know the situation. Here we go, we've got a 16-hour kidney, say, at 6 o'clock, it's in Glasgow, it's going to have to be flown to Belfast either by a private aeroplane or if there was an 8 o'clock flight, whatever.

THE CHAIRMAN: Yes.

A. And then that there would be at least a 4-hour procedure to cross-match the child while all of this was going on and instantly, as a surgeon, you know that that's coming at 1 o'clock. Now, you calculate 01.42 -- this is what we would have been discussing -- that's 24 hours at the very earliest.

There are two implications of that decision. He's never going to get a kidney under 18 hours, but he would get one in the next group, in the 18 to 36 hours, and I would have discussed that. These are -- you just know that and we would have discussed that issue. And then we would have sat and thought: this is a child with that risk; I know you, Professor Savage, I trust you implicitly to do the right thing for him. Yes, if you tell me that having had this discussion, we should accept the kidney for Adam, then yes, I will transplant

it.

MS ANYADIKE-DANES: Thank you. I was going to go on and deal with something slightly different, Mr Chairman. I wonder if that's a convenient moment.

THE CHAIRMAN: Mr Keane, I think we'll leave it at that for today because we're going to go on to something slightly different. I'm afraid I have to ask you -- I know that you have been good enough to make yourself available yet again tomorrow. We will have to start, whatever oddities arise, at 10 o'clock sharp tomorrow morning because we have to get Ms Anyadike-Danes' questioning done, but we also have to give as much time as we can to other people who may have further questions, to have a chance to consider them.

Mr McBrien, Mr Hunter, I think that was something of a concern on Friday afternoon. If you and the family could start thinking overnight about the evidence which was given today and think at lunchtime tomorrow about the evidence given tomorrow morning, it might make things easier tomorrow afternoon.

MR MILLAR: Sir, I think you'd asked the DLS to try and find some further information about the post Adam --

THE CHAIRMAN: The transplant procedures?

MR MILLAR: Yes. It's just if any further documentary evidence has become available as of now, and

I understand that there is further documentary material available and it's been sent to the inquiry, if that could be made available to the witness so that he can consider it and think about it.

THE CHAIRMAN: I will go and check now what has been made available.

Mr Keane, if you could wait for five or ten minutes, if it has been made available, we can copy it for you.

MS ANYADIKE-DANES: I think we have part of the story but not the entire story, but yes, of course he can have part of what we have.

THE CHAIRMAN: We'll give you what we have. Thank you.

(4.25 pm)

(The hearing adjourned until 10.00 am the following day)

I N D E X