Thursday, 26 April 2012

(9.30 am)

MR PATRICK KEANE (continued)

Questions from MS ANYADIKE-DANES (continued)

THE CHAIRMAN: Mr Keane, could I say before you start that I'm sorry about yesterday and I'm very grateful to you for allowing Dr O'Connor to come along.

A. Could I also say to you, Mr Chairman, that I now realise, having given oral evidence for two days, that I've written statements to the inquiry assuming you understood it from a surgeon's point of view and I can see I've caused confusion.

THE CHAIRMAN: Don't worry.

A. I apologise for that.

THE CHAIRMAN: I think we're getting closer to understanding.

MS ANYADIKE-DANES: Good morning, Mr Keane. It seems a long time ago since you were last giving evidence, but I think where we were was you had explained issues to do with the CVP and there were some matters that had been taken out of order with you. That may happen again as people feed me things they want to make sure are covered, but I'm trying to proceed in a chronological order for you.

A. Could I ask you to start from the very start of the

procedure again, if that helps you?

Q. Sorry?

A. Sorry, it's okay. I do apologise, sorry.

Q. I was going to go to the timing of the surgery, knife to skin. In your, I think it's your witness statement, 006/3, page 12, in answer to question 22, I think, you are asked -- because you have previously been asked when the surgery, knife to skin, started. You have previously said approximately 7.15. So you're asked the basis of your claim that the surgery, knife to skin, took place at approximately 7.15. And you say:

"Having reflected on this, it would now appear that the surgery started at around 8 am."

What I want to ask you is what exactly you reflected on to change your view as to when knife to skin started.

A. Well, as I've tried to convey in the past, the CVP is the issue. He's a small child, we can't have an anaesthetist doing the CVP insertion procedure while I'm operating. So when I saw for the first time those truncated pictures, 17 years later, with 8 o'clock on it, it's an instant realisation -- for which I've just tried to explain -- to a surgeon that I couldn't have started at 8 because the first CVP reading, which is inherently the most important issue as I've tried to explain, took place at 8. It's unlikely that --

Q. Sorry, Mr Keane. I do beg your pardon interrupting but I didn't ask you about that. What I had asked you was: we had previously asked you when you started and you said you started at 7.15. This is knife to skin. So we were asking you why you thought it was 7.15 and your answer to that is you had reflected on matters and considered the evidence and you now thought, or it would now appear, that the surgery started at around 8. What you seem to be indicating is a reason for why it might not actually have started at 8 either. So the question was: why did you move or what was the evidence that you considered that moved your view from 7.15 to 8?

A. The first CVP reading.

Q. Well, let me help you with this. If I can pull up your deposition, which is 011-003-010.

This is actually better than your deposition, this is -- if you remember, you were asked if you would provide a statement. You provided -- this is your letter to Mrs Young, which then got turned into your deposition for the coroner. Do you remember that?

A. I do.

Q. If you look at that first line:

"I was asked to transplant this 4 year-old boy on Monday 27 November 1995. The operation started at 7.30 am and was technically very difficult."

That is a statement that you are writing on 11 December 1995, very proximate to the actual events. So we are trying to find out when the operation actually started. It seems that in your statement, your sixth statement, which is some considerable time after the events, you seem to be of the view that it's 8 o'clock and you now seem to be of the view that it might be even slightly later. So what I'm trying to find out is why, when you wrote a statement in your own words, very close to the event, you were able to put the operation starting at 7.30?

A. I don't have a watch on me, I'm trying to remember approximately. I stated in that an exact time. The reason -- so that is ... It's just an approximate memory because I don't have a -- I'm in theatre gear, I don't have my watch on me to say I --

Q. Is there a clock in theatre?

A. Yes, but I wouldn't necessarily look at it. It's an unimportant detail to a surgeon who's -- it just isn't anything that we would, as surgeons, think important, what time, because it doesn't make any difference as long as the patient is safely asleep.

Q. So you were going on to say when you thought the surgery had actually started, which seemed to be perhaps a shift in your position from your last statement.

A. Yes. I think I've tried to indicate why this might be so, but if you look at these documents and you say, as a surgeon: the first CVP reading is at 8, I couldn't possibly have started, I needed to scrub, I needed to talk to people, I can't put a minute on it but -- I need to prep the patient, put the drapes on. A nurse has to come with all the instruments, the diathermy, everything, set everything up and then everybody finally has to agree. That's knife to skin, but that -- if you estimate it, if you grant me that the first CVP reading was 8, and I don't know exactly because those records are compressed -- you'd have to expand them to see whether it was 8.03, 8.04 -- then I would give you a start time of five minutes to scrub and another five minutes to do the things -- prep Adam, wash him with antiseptic, put the drapes on. My best possible estimate for you is a start time of 8.10.

Q. Thank you. At that time, so when the CVP line is in and you've had your discussion with Dr Taylor at the monitor and told him what you expect in terms of CVP and then you have scrubbed and cleaned Adam and you're ready to commence, if I can put it that way, who's in the operating theatre?

A. My assistant.

Q. Mr Brown?

A. Mr Brown, sorry. My assistant, Mr Brown. A scrub nurse whose name I would not necessarily expect to remember.
Q. Mm-hm.
A. At the top of the table is the anaesthetic team, who are dynamic, so whether both were there at the very start or ... But there would be an anaesthetist. I've spoken to both of them prior to this scrubbing procedure.
Q. Sorry, did you mean you had spoken to both anaesthetists?
A. Well, if they were there, but I had given -- my evidence is that I had given clear instructions as to the conduct.
Q. What I'm trying to get at is: I'd heard before that you had spoken to Dr Taylor; I hadn't heard that you would have spoken to both of them if they were there.
A. See, unfortunately I wouldn't remember whether I was speaking to Dr Taylor and his assistant or just Dr Taylor.
Q. I understand.
A. I would have given instruction to -- it would have to be the consultant. You just know that.
THE CHAIRMAN: But if Dr Montague was there, you would not exclude him from that discussion; he would be included.
A. As I understood his role, he was in a teaching -- I would expect him to be listening. I can't -- I don't

know whether he was there.

THE CHAIRMAN: I understand.

MR UBEROI: In fairness to the witness, I only rise to ask for clarification of the type of evidence he's giving as to whether he's giving evidence as to what he, in fact, recalls or whether he recalls what his standard practice would have been in order to re-piece together what might have happened.

MS ANYADIKE-DANES: Yes.

A. The latter.

Q. You're trying to piece together what might have happened?

A. In real time with you now, yes.

Q. Okay. Well, it is something that we do invite you to do, so I couldn't possibly be critical of it. But what would be very helpful is if you could indicate when you have moved in to, "This is what I think must have happened", as opposed to, "This is what I recall happened".

A. Unfortunately, I suspect I'm never going to come away from that position exactly. But if I have a --

THE CHAIRMAN: I know from your evidence of a few days ago that there are some things you remember.

A. At the points I can tell you that I specifically said something --

THE CHAIRMAN: If you do that and if you say, "I recall this and this is what happened", or if you don't recall it, just say, "I don't recall, but what I expect would have happened would be such-and-such."

A. That would help you?

THE CHAIRMAN: It would.

MS ANYADIKE-DANES: The anaesthetist, the scrub nurse, two nurses maybe. Who else would be there?

A. There's -- there would always be present, in an operating theatre, a nurse who is called a runner, but that's not quite ...

Q. Circulating nurse?

A. A circulating nurse, yes. And almost certainly -- but because I can't remember -- there would be an auxiliary nurse in and around the complex, coming in and out from these wash preparation rooms to -- in and out. But whether she was there at the very start, I couldn't confirm that because they have ... Outside the theatre -- and I have absolutely no recollection from the pictures of ... Outside a normal operating theatre, there is a space where the preparation that had gone on in the half hour, hour, before that the nurses were doing, the trolleys are laid out in some room with sterile covers on them as they check their instruments and count everything.

That is called a clean area. And normally, I don't know how that -- it's quite higgledy-piggledy over there, but in a normal operating room, you would normally have what they call a sluice room or a dirty area so people were not invited into there. They would understand not to come through the sluice area. If you wish to come to the theatre, you would come through the clean area or through the induction area where the anaesthetist would have put Adam asleep.

Q. Sorry, it is helpful, although we have some of those rooms marked on the site plan. What I was trying to ascertain from you is who was in the theatre. I think what you have said is there was a scrub nurse. That's the nurse that you would have your closest relationship with.

A. Mm-hm.

Q. Then I think you said there was a circulating nurse.

A. There would have to be.

Q. And then I think you said you thought there was an auxillary nurse who may have come in from time to time.

A. There would have been somebody there. That is the standard way the NHS think is safe to operate.

Q. So we are clear about this -- because you probably know there is a bit of an issue in relation to the nurses -- does that mean there are three distinct nurses, even

though not all three are there all the time?

A. Yes.

Q. Thank you. So the nurses. Who else?

A. At the very start, there's ... Professor Savage would have about in and out. Now, can I recall he was there as we just started or had he just left to come back? There's a dynamic thing going on with Professor Savage to my recollection that I recall him being there as I stopped these episodes of concentration, but I couldn't actually say that he was there when I started the incision.

Q. Is there a medical technical officer so far as you're aware?

A. No. I have seen the confusion. I would not expect a medical technical officer to be in an operating theatre unless there was an issue of the equipment being faulty and therefore I can't imagine that I will have started if there was some issue that there was a broken piece of instrumentation that needed to be fixed.

Q. Slightly different question. Do you remember --

A. No, I don't. I do not remember.

Q. Thank you. Do you remember if Eleanor Donaghy was there --

A. No.

Q. -- at the start?

A. At the start.
Q. And when the kidney arrives, which you say you either didn't bring it or have no recollection of how it got there, but obviously it did get there. And it comes with the transplant form.
A. Mm-hm.
Q. Dr O'Connor has given the evidence it's in some sort of plastic sheet, the transplant form. When do the details that the recipient centre have to complete -- when are they added?
A. After completion of the transplant procedure, some time.
Q. Ah. Just as we're on personnel -- so we don't have to, hopefully, revisit it -- I had been asking you about who the personnel were literally when you started.
A. Yes.
Q. And I think you had helped us by extending it and said, even past there, you do recall from time to time, as you drew breath from your concentration, if I can put it that way, that Professor Savage might be there.
A. That's correct.
Q. If we extend further and think about the duration of the surgery itself, can you help by who else you remember being in the operating theatre at any time, even if you can't particularly remember the actual time?
A. I have a recollection of Dr O'Connor, just her presence,

and I think -- I can't be certain -- that I have a recollection that at some stage the transplant coordinator was there, but I don't ... You know, I can't swear under oath to any of these things. I'm trying to remember. I think I have a memory of Eleanor just somewhere, not talking to her, but just being there, her presence.

Q. Thank you. I wonder then if we can move on to the issue of blood loss.

A. Yes.

Q. Dr Taylor in his deposition to the coroner -- we can look at it very briefly, 001-014-096 -- he says that there was substantial ongoing blood loss from the surgery.

A. Yes.

Q. So that's his position.

A. That's his position.

Q. If we look at witness statement 008/3, page 18, I think he says it's greater than 300 ml. There we are. That was his -- when we asked him about blood loss, he rechecked the blood loss measurements and he says it was a visible estimate, no accurate measurement was taken:

"My estimate was greater than 300 ml."

And there are other references also to what he viewed as the blood loss. Maybe if we take them in

order of, chronologically, when he said them. If we go back to 001-014-101 -- I beg your pardon. Can we go to -- pull up where he says "a significant blood loss" because I think he then goes on to say there was 328 ml of blood loss in the swabs, which started off light, but increased in size?

A. Mm-hm.

Q. If we go to witness statement 008/3, page 18, I think we will have him saying that there were 500 ml of blood in the suction bottle and an unknown amount in the towels and drapes. Do you see that there?

A. I'm sorry, I'm not -- I can't see it.

Q. I'm trying to see where he said that. I think I must have got an incorrect reference. I'm sorry. We'll find it and come back to it so that you can see what he is actually saying.

If we go to his -- he has three total figures, I believe. That may be a better way to look at it because you have your own view as to how that total would be comprised. The first total figure I think is given in 011-014-097. I think that total figure is 1128 ml. There we are.

A. Yes.

Q. So it was a follow on from where I had you -- in fact, that's the whole bit I was looking for right there:

"I estimated this to be 500 ml of blood in the suction bottle and an unknown amount in the towels and drapes. I estimated this to be about 300 ml but they were heavily soaked. Thus, the total blood loss I estimated to be 1128 ml."

He goes on to say how he replaces that. So that's his first reference.

Then, in witness statement 008/5, page 2, he has 1,211 ml there. Under (iii):

"Total estimated blood loss 1,211 ml throughout the procedure. I have no records of when the blood loss occurred, but I have estimated the following based on the time periods."

And he gives it there -- time period stage 4, 8 to 10 -- and he gives his estimate of what he thinks that might be, 800 ml. Stage 5, estimate of 200 ml. Stage 6, estimate of 211 ml. That is how he arrives at that.

Then in witness statement 008/1, page 7, I think he has a figure of 1411:

"To assist the inquiry, I have summarised the total fluids given to Adam with reasons."

Then if you see the answer to 2, he has estimate of losses as 1,411 ml. That is in relation to blood; he has other figures for fluids that he's replacing in other ways.

A. Sure.
Q. So that's Dr Taylor's position. Your position in your statements is very different from that. I think the first we can see -- if we look at your statement to the PSNI, 093-010-030.

Then I think you will see that, during the course of the operation, there was very little blood loss. So that's a starting point. Well, I will take you through your statements --

A. Could I pass a comment and come back to that?

I understand that that's what I've written, but it does not convey the meaning that I meant it to convey.

Q. Ah. Okay.

THE CHAIRMAN: Sorry, what meaning did you intend it to convey?

A. If I had had the opportunity to really consider, without these surgical issues insights, I would have put the comma before "loss and relative to the task at end", full stop.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: What would that have meant?

A. That would have meant that I was a surgeon doing a difficult operation in which we had cross-matched a child and had anticipated that we would lose some blood. You can only visualise that, and it is

in relation to what I expected to lose, is the meaning of "relative to the task in hand".

Q. Okay. Well, let's go to your witness statement, 006/3 at page 17, starting with 34. So in your previous statement you have said that surgeons are very aware of blood loss and will communicate concerns to the anaesthetist. Then you say -- you use a different term here:

"There was no major bleeding in Adam's case. His haemoglobin was 10 at the start and 10 at the end and he received between 250 and 350 cc blood."

So this is an answer to a series of questions that arise out of that statement. We ask you to provide your reasoned calculation for Adam's total blood loss during the transplant surgery and then we invite you to consider a number of things. Perhaps if we can go to page 18.

Well, just to say that you start at the bottom there, you give an explanation that:

"Paediatric blood units contain anything from 180 to 250cc. Adam may only have received 360 ml of blood and ended up with a haemoglobin level 4 grams higher ..."

And it's quite clear from the anaesthetic record that there were two sets of 250, and I think that what you're doing is you are saying: well, the blood units

come in packs, some of them may be at 180cc, others are 250cc. And what you go on to say is to posit that he could have, therefore, if he had had both of those infusions and they had been with the lower cc packs, he could have received only 360 ml even though he received both of those packs. Equally, he could have received 500, which I think you concede.

A. Absolutely.

Q. One of the other things that you had previously said was you had said that his haemoglobin was at 10 and then started at 10 and went back to 10, if I can put it that way, or was 10 at the end. What I don't think you deal with is any changes that there might have been in his vital signs over the course of the surgery. So you don't appear to factor that in when you're having this discussion about blood loss.

In fact, I think we can easily see a chart, I believe, that will show that. If we look at 307-006-071. If you look at that, you can see his haemoglobin levels at 7 am -- it's chart 5.

At 7 am, you can see 10.5. Then, at 9.30, 6.1. And 11.30, he's at 10.6. So although in your way of portraying it he ends up in much the same position that he started off, there is a -- and it's for others to say how significant it is -- difference between where he

starts off and where he is at 9.30. If we go to the next page, I think one can see the chart, which is 307-006-072.

There we are. You can see the chart of what's happening and that clearly shows his haemoglobin levels.

A. I'm looking at an oxygen saturation --

Q. If you look at the bottom, you can see "Hb 10.5" --

A. Yes.

Q. -- just to help in terms of when that's happening across the course of the surgical period.

So is there any reason why you didn't, when you were making your statement, "Well, he started off with one figure and ended up with much the same figure", why you didn't address the fact that it wasn't that figure continuously all the way through the surgical period?

A. Well, again, a surgeon would have taken that ... Yes, I have to comment on -- could I comment on Dr Taylor's estimates, his method of estimating?

Q. Yes, of course. For the purposes of this, could you answer that question though? Why you said in your statement that his haemoglobin was 10 at the start and 10 at the end and he received between 250 and 350cc blood without explaining, "Yes, but at 9.30, actually, it was 6.1", and then going on to explain what the significance or otherwise might be of that.

A. I apologise, I understand. During surgery, obviously, at the beginning when you're doing the routine incisions to get to -- you bleed a little and your haemoglobin will change, but you have the potential once you get to the heart of the operation to have a major change in haemoglobin. So it's not a -- haemoglobin during surgery is not a static thing. That, to a surgeon, is given. I know I'm going to cause bleeding, therefore, by definition, your haemoglobin level is going to alter. Hopefully in a controlled way, but you have the risk in surgery that you might lose a lot of haemoglobin at any minute.

Q. I understand that, Mr Keane. All I'm asking you is: given we were seeking an explanation from you and you were explaining, why you didn't take into account that figure and explain it in whichever way you wanted --

A. The figure --

Q. Sorry, you might have said, "That was an entirely anticipated sort of fall and wouldn't have caused me any difficulty". Or you could have said something else. All I'm asking is why you didn't furnish the inquiry with the information and explanation.

A. My apologies. I had no knowledge of the middle result.

MR MILLAR: There is a subsequent question where Mr Keane

was asked specifically about the 6.1 and where he does address it specifically. I don't know whether my learned friend's question is why he didn't raise it spontaneously at an earlier stage. He certainly does address the issue and give his explanation for the 6.1.

MS ANYADIKE-DANES: It's that, why he didn't do that. Of course, he raises things when we --

A. I was never aware --

Q. -- specifically put them to him.

A. Because that information, as I've just tried to describe the operation, has to be communicated to me. I think it was very important, critically important, that that would be communicated to me. But those results were never communicated to me in real time.

Q. I understand that. But you were being asked for your view as -- because you had volunteered that there was very little blood loss. Remember how this starts. We had asked you to explain that and what you think the blood loss was. You then explain with all the benefit of the medical notes and records that you have, to the inquiry, what you think the blood loss is and this is how we start along this path of understanding your explanation. But you have now said something slightly different, which I would like to ask you about.

That fall in the haemoglobin levels to 6.1: is that

something that you would have expected to have been advised about?

A. It's critically important, as I tried to describe, that I understand everything -- everything -- because I can make decisions now which may significantly alter the course of these events. Every time there's an event that you speak to me about, I am unaware of in real time. I only look at them -- I never saw the anaesthetic record for 17 years or 15 years. Every single time -- the contract is ... My recollection of how I conduct a transplant operation is that I instruct the anaesthetist clearly to let me know what's happening. Everything. And there was no communication that Adam's sodium was 123 or 6.1. And these are critically important issues.

I am ... You probably, uniquely, as a urologist -- because we deal with acute water intoxication, I would have been uniquely in a position to give an opinion on the significance, had I been told of what this issue was. I was never made aware.

Q. I understand. Thank you very much.

If we then deal with the actual formula, if I can put it that way, that you have used to explain the blood loss. One sees that at 006/3, page 18. There we are. So you've got your estimated blood loss equals the blood

volumes times the haematocrit start and HCT end over the HCT start. Having applied that formula -- and you accept that you can't know whether the blood loss was -- how much he was actually given, so you work on both bases, if I can put it that way, and you end up with estimated blood loss -- well, bearing in mind his blood volume is 1,500 cc, you end up with estimated blood loss of 655cc or 468.

You say:

"From a surgical perspective, the lower figure would be more accurate."

Why do you say that?

A. Because Adam had been, whilst he was in the anaesthetic room -- without my permission, I would say, and without telling me -- he had been given 750 -- I would estimate from looking back, I wouldn't have known this because I have never seen the anaesthetic chart. But looking at it, if you can bring up the anaesthetic chart, it might help you.

Q. We can. That I think is 058-003-005. There we are.

A. Yes. The first time --

Q. Just to help everybody, can we just put a line through the time so that we can help. Right.

A. And a line through --

Q. One fifth saline, 4 per cent.

A. As a matter of professional courtesy to a fellow professional doing very difficult procedures, surgeons don't go into the anaesthetic induction room. There's a sign in many theatres saying: no entry during induction of anaesthesia.
Q. Yes.
A. So I could not -- well, there was ... It would be a matter of: don't go in because another professional has important work to do. During that time, as I look at that chart, somehow or other --
Q. Sorry, can I pause there so I find out -- where are you at that time?
A. Probably sitting in some coffee room waiting, waiting.
Q. Not speaking to the scrub nurse or anything?
A. Well, I may be -- speaking to anybody, but surgeons ... Particularly paediatric issues, it's a very stressful job for the child, the anaesthetist. Being an anaesthetist in this situation is critically important and they're very skilled people.
Q. But you're not in the operating theatre?
A. I couldn't -- definitely not in the induction, no. I have no recollection of the kitchen you were talking about yesterday. I have no recollection. I'd probably be sitting there waiting. Endless -- sorry, waiting.
Q. Adam wasn't anaesthetised in the anaesthetic room or the

induction room. Adam was anaesthetised in the operating theatre.

A. Yes, but he would have --

Q. Would there have been any reason why you couldn't have entered the operating theatre? So far as we are aware, and we can look at the witness statements if there's any doubt about it, Dr Taylor was in the operating theatre, a nurse was there, Adam was there, his mother was there. Dr Montague, because Adam was crying -- which is something you say you remember hearing, as I understand it -- was in the anaesthetic room setting up things. But the main parties were in the operating theatre. Is there anything that would have stopped you going into the operating theatre?

A. Well, could I explain? It's not exactly a handover, it's a dynamic process. You go into an induction room, the child is very upset, he gets an intravenous needle to calm him down, and then I don't know where the actual anaesthesia is, it's probably ... But it could be in the theatre. So basically --

Q. It was in the operating theatre according to -- sorry, that was the point of what I was putting to you. All those witnesses say that it was in the operating theatre. Adam was brought directly into the operating theatre and anaesthetised there.

A. Yes, that's a slightly more subtle -- he was brought into the induction room. I haven't seen any of this. He was probably sedated, if you like, given something to calm him down before he would be induced. That would be a normal procedure. I would understand that.

Q. Can you help me: do you know that for a fact that Adam was taken into an induction room and given something to calm him down?

A. No. I'm just -- again ...

Q. That's something. It's important to know the bits that you deduce and the bits that you know. You don't know that?

A. I don't know that.

Q. So does that mean that you are not in a position to counter the evidence that says he was brought directly into the operating theatre and anaesthetised there?

A. No, I can't.

Q. Thank you. In any event, I think what you were going to do was to explain the fact that without informing you or without your authority or permission -- that may have been the expressions you used -- that he was infused a quantity of fluid. Is that what you were going to explain?

A. That's right. And you can see the amounts ...

Q. We can. It is rather small, I accept that. Certainly

by 7.30, 500 had gone in.

A. That's right.

Q. And at 7.30, it would appear another 500 was started, which was to go over until somewhere up to 8.45, maybe just before that. There we are.

A. Yes, that's right.

Q. So if you're saying that you are doing things in the operating theatre round about 8 o'clock to permit a knife to skin at about 8.10 --

A. Could I clarify how this actual works in practice?

Q. Yes. And then can you say what you recall?

A. The standard practice -- I can't actually recall this, but the standard professional thing to do here is to not interfere with a consultant colleague. In other words, upset him because he's got things to do and he knows that. Essentially, a surgeon should be invited into the operating theatre when he, the anaesthetist, has everything done. That is how a professional relationship would work.

It would be unprofessional to open a door while a small child was potentially -- even having a drip up that might cause it to miss and say something. They need quiet and I have to understand it, no matter how impatient I am, I have to realise that as a professional courtesy, that this is how the procedure -- an

anaesthetist has a right to expect of me that I trust him to do whatever he's doing and to be allowed the time to do it. Otherwise, it would be, in my opinion, unprofessional behaviour.

Q. I understand.

A. That's how -- but I cannot -- that is why the only recollection I have is sitting somewhere.

Q. But I think you -- I think, other than the lack of what you say, professional courtesy, I thought you were going to make a point as to the significance of the fluid that he had been given --

A. Oh.

Q. -- before the knife to skin.

A. This is it, the critical decision in his management.

Q. Right. And what is that?

A. Well, if you look at it, in one hour ... If you look at it -- if you abstract yourself. Unfortunately, I now realise I see pictures of what's in front of me and that's why I have difficulty writing exactly what I'm saying. If you abstract yourself and take away anything, a 4 year-old child has been given 500cc and say -- surgeons work in ready calculators -- half ... So by 8 o'clock, he's got 750cc of Solution No. 18. And if I --

Q. Not necessarily.

A. Well --
Q. Because the second 500 is given over a longer period, so not necessarily. The one thing that seems to be reasonably certain from this record is that he got 500 in the first half hour. That seems to be reasonably certain. Then he got a further 500 over the period of 7.30 to perhaps 8.45.
A. I was trying to say that a surgeon's -- surgeons don't work ... As a practising surgeon looking at this, you'd say he's got somewhere between 600 and 750 or you take 650. You'd say about 700 if you looked at it with any -- to figure that out. You'd normally say he's got 500 and half the next 500 as a practising surgeon.
Q. Yes, and?
A. And he is now in -- without my permission, without telling me, he is in very serious danger that something is going to go wrong.
Q. Why do you say that exactly?
A. Well, it comes back to basic concepts, doesn't it? 750, say, or let's say a lower figure, 600 of Solution No. 18. Solution No. 18 is one-fifth normal saline. That means four-fifths of it is water.
Q. Mm-hm.
A. Take 600. Sorry, I'm just under stress, I can do it quicker when ... Let me see now. 600, divide by 5.

I can't do it.

THE CHAIRMAN: 120.

A. Multiply that by 4. 480cc of free water is now available in Adam Strain. It has nowhere to go. It is searching for somewhere to go and if it ends up in his brain, he's in trouble. So if I had known this, there would be an immediate cancellation of the transplant. If I had known.

MS ANYADIKE-DANES: Would it occur to you that he might have been in fluid deficit and that's why the anaesthetist was administering those fluids? Because you wouldn't know from this whether he was or wasn't.

A. I would not expect any anaesthetist who had just been involved in one transplant procedure to assign to himself the competence to manage the deficit issue without contacting -- discussing with the two professionals who were available to him.

Q. And how would you know that the anaesthetist had not discussed it with the child's consultant nephrologist? Since you didn't actually have the conversation, how do you, at that stage, just looking at the anaesthetic record, how do you know that this isn't all done with the benefit of Dr Taylor having had a discussion with Professor Savage, who accepted that the child, regrettably, was in deficit and was seeking to address

that deficit as well as provide maintenance fluids? How would you know that?

A. Again, this is a surgical assumption. If I was saying what should happen to Adam Strain for an hour before we got his CVP line in to accurately assess the deficit, all he needed -- while we were waiting for however long to get the CVP in, all Adam was requiring was 75 ml. If you scale it up -- as a surgeon looks at this, he's had ten times in one hour what I would have said he needed. You see the scale of difference in management from a surgeon to an anaesthetist who's ever been involved in one transplant procedure?

Q. Well, we'll address how significant it is that he's anaesthetising a child in relation to a transplant procedure or anaesthetising a child for some other major surgery. Leaving that aside, are you actually saying that you believe that the administration of fluids for this hour, if I can put it that way, before you're going to commence your surgery is something that actually should have been discussed between yourself and Dr Taylor?

A. Or his ... I could accept if Dr Savage and Dr Taylor agreed this plan because -- well, it's inconceivable that Dr Savage would have been involved. And my reading of it was, it was two anaesthetists that drew up a plan.

Even --

Q. No, we get confused between your sort of ex post rationalisation and there. So what I think you were trying to help us with is: if you were there and you had just seen this, he'd left his anaesthetic record on the clipboard on the side and you'd seen that, you would be concerned to note that that amount of fluid had gone in just prior to you starting the surgery. That's what I thought you were saying.

A. More than concerned.

Q. And I was going to go on to say: and you would think, as a matter of at least professional courtesy, that that is something that should have been discussed with you; is that your evidence?

A. That is my evidence.

THE CHAIRMAN: Because it's so abnormal?

A. Because of the scale of difference of what I would assume had been done to what had actually been done.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Right. I see. So that could be a further point, which is because it is so different, you'd expect him to say: don't worry, I've done this because of X, Y or Z?

A. I would expect no doctor that I know to do -- to give that -- to plan to give that.

Q. I understand.

MR UBEROI: I entirely see what my learned friend is trying to get to the bottom of because the answer is, again, very different to the question as to whether or not he would expect to be notified of it, given that he is the surgeon and there is a consultant anaesthetist who's making the calculations as against the separate question of his view now after the event of the fluid calculations.

THE CHAIRMAN: As I understand the evidence, Mr Uberoi, it is that Mr Keane would not normally expect to be involved in the discussion with the anaesthetist about what fluids should be given, but that if it is as strikingly different as it was on the morning of 27 November, he would expect there to be some conversation before that fluid was given. At the very least, a conversation between Dr Taylor and Professor Savage, if not a conversation with him.

Do I understand you correctly?

A. I can try to clarify it in another -- how a surgeon would look at it. But if you want to see the disparity between a surgeon and an anaesthetist in consideration of how a deficit problem would be, I can do another type of surgical analogy for you if it would help you.

THE CHAIRMAN: I'm not sure if that's going to take us

1 further away. If you follow my understanding of the
2 exchanges over the last few minutes, it is this: you
3 would not normally expect the anaesthetist to discuss
4 with you what fluids he was going to administer because
5 that's his job, it's not your job.
6 A. Oh, it's not my job.
7 THE CHAIRMAN: Therefore, you would not expect him to
8 discuss what fluids he was going to administer with you.
9 A. No, the assumption is he would -- no, I would not.
10 THE CHAIRMAN: But if he was going to administer fluids of
11 the type and the volume and at the rate which were given
12 to Adam, you would expect him at least to have
13 a discussion with Professor Savage and, possibly,
14 a conversation with you; is that right?
15 A. No. I'd have to explain the significance of the figures
16 to a surgeon. You're going to plan to give somebody
17 half his blood volume in an hour. Now, to a surgeon,
18 there is something very, very seriously wrong. You're
19 either haemorrhaging as if you were haemorrhaging in an
20 operating theatre, a massive trauma, to plan to give
21 somebody half his blood volume. We think in volume
22 rather than --
23 THE CHAIRMAN: Is that not why you would expect, before
24 Dr Taylor did what he did, that he would have spoken
25 either to -- would you have expected him to have spoken

to you?

A. Well, he's taking a decision here -- of course, because you need to be stopped, don't do it. Of course, if you make a decision of that magnitude, the actual decision, "I want to give somebody this amount and rate and volume of fluid", you must ask.

THE CHAIRMAN: Who must he ask?

A. He must ask me.

THE CHAIRMAN: Okay. Just one moment, Mr Fortune. Sorry, whether or not he has spoken to Professor Savage, he should speak to you?

A. Well, it's hard to ... The only person that can transplant Adam Strain is Mr Keane.

THE CHAIRMAN: Okay. Mr Fortune?

MR FORTUNE: Sir, I rise to intervene at this stage as to whether there is some mix-up between the words expectation and speculation. Because I am concerned when Mr Keane says, "I would have expected Dr Taylor to have spoken to Professor Savage". More correctly it might be the case: I am speculating as to that.

A. I would have expected him.

THE CHAIRMAN: Even if -- maybe the other way through it is this: even if he had spoken to Professor Savage, what you're saying is he was obliged to speak to you because of the consequences of this infusion of fluid for you as

the surgeon?

A. Absolutely. If you look at it another way, the partnership is Savage/Keane. Essentially you're here to mind Adam and you plan to do this. Why wouldn't you ask either ... It's not possible to understand it.

THE CHAIRMAN: Yes, but I'm sorry, I now understand your point to be that even if he had spoken to Professor Savage, he was obliged to speak to you if he was going to do what he did?

A. If you look at the structure of the team, yes, but it's inconceivable to me that a professor of nephrology would say: yes, that sounds reasonable, go ahead.

MR FORTUNE: Sir, I come back to this matter. We have heard from Professor Savage that it was his responsibility to deliver Adam to the anaesthetist and the surgeon in a condition whereby he was fit for anaesthesia and the surgery to follow. We're not talking about a team involving Professor Savage and Mr Keane. We're talking about the respective clinical responsibilities and duties and that must be made clear.

THE CHAIRMAN: I'm not sure how much more we need to go into this. In fact, on Thursday and Friday, we all heard Dr Taylor make essential concessions on this, which was that it was his decision. He did not speak to you about the fluid administration, he didn't speak to

Professor Savage about the fluid administration. So he wasn't seeking to blame either of the two of you for knowing about it and not stopping him or for not having played a greater part.

A. No, that's as I understood his evidence.

THE CHAIRMAN: Okay, thank you.

MR FORTUNE: Thank you, sir.

MS ANYADIKE-DANES: You end up in your statement, 006/3, page 18, with an estimated blood loss of 650 cc or 468 cc. What I had asked you, which seemed to have prompted that debate about your consideration of the fluids, if only you knew what they were, was: why is it that you say, from a surgical perspective, the lower figure of 468cc would be more accurate?

A. I'd have to bring you back to the anaesthetic chart to tell you. It would be easier to understand. Because essentially, I can explain it to you.

Q. 058-003-005. There we are.

A. If you look now at any time in --

Q. And also for one-fifth saline, 4 per cent. Thank you.

A. At any time in which -- at 8 o'clock, you say it is reasonable for me to say, "I started", Adam had had a large infusion of water which was leaking, if you like, everywhere. His haematocrit -- this would happen very quickly, so his haematocrit at 8 would probably be

the same or more or less. But as you give him the HPPF -- can you highlight the HPPF? He's now giving him a fluid which will suck some of the water back in. And now his haematocrit will now start to fall. Somewhere in the administration -- and you see the Hartmann's?

Q. Yes.

A. Somewhere along there is this -- it won't fall acutely, but somewhere from the beginning of the 400, whenever that is exactly -- 0830, is it? Or 0815. The process of the dilution of Adam's blood, in my opinion, starts at 0830.

Q. Okay.

A. Right? So if you take a blood test at 9.30, I'm only speculating to you that a mechanism -- the experts can ...

Q. Actually, I'm not necessarily encouraging you to speculate; I simply wanted the explanation. It's a very clear statement you make and I simply wanted the explanation so that when the inquiry's experts and surgeons give their evidence, they understand what lies behind some of these statements you make from a surgical perspective. That's all I want.

A. I apologise. That's fine then.

Q. What's fine?

A. What I just said.

Q. Right, okay. Let's go back to the witness statement. 006/3, page 18. After you've dealt with that, we asked you to:

"Explain the quantity of blood which constitutes major bleeding."

Because actually this is how all this started: you had a statement that said that there wasn't any major bleeding. We asked you what bleeding there was and you told us what it was. Then we wanted to understand what you meant by "major bleeding". You say in answer to that -- that's just below (b) there:

"There is no strict definition of the term. A commonly used one is bleeding requiring more than two units of blood to replace blood loss."

A. I should have said, "a commonly used one in adults", I suppose.

Q. That's exactly what I was going to ask you about.

A. My apologies.

Q. That's okay. So that commonly used one, wherever it comes from, and whether it is common or not, whatever it is relates to adults; is that right? Yes?

A. Yes, because I --

Q. Thank you. That's fine. Thank you. I think that we had been able to get some help with if there is a definition of "major bleeding". It's a document that

you would all have received latterly. It's an article, and I think it's at reference 306-027-001. There we are. If wonder if we can increase that a little bit. Fortunately, what I'm directed to highlight is in the first sentence. It says:

"In a medical setting, surgery is the most common cause of major blood loss, defined as a loss of 20 per cent of total blood volume or more."

Then it goes on -- and I'm sorry that we don't have -- this is the abstract, of course. We don't have the full article; we're trying to get you the full article and I apologise for that. In any event, that seems a fairly clear statement.

A. Yes.

Q. Would you accept that that is one way of categorising major bleeding?

A. Well, as I said, there was no strict -- I would be happy --

Q. I understand that.

A. I would be happy to accept that.

Q. Okay. Then let's just think about the implications of that. You have two figures for your estimated blood loss.

A. Mm-hm.

Q. One is 655, arithmetic's not my strong suit, but here's

one I prepared earlier: 655 is 43 per cent, if you work it out on the basis of Adam having a blood volume of 1,500 cc. Your lower figure of 468, I think, is 31 per cent.

A. Yes.

Q. So even on your lower figure, if you're accepting this definition, there was major bleeding.

A. Yes. This was a major operation.

Q. Nobody actually has doubted that. The question came from your statement that there wasn't major bleeding.

THE CHAIRMAN: He's clarified that now so we can move on because you now say: very little blood loss relative to the task in hand.

A. Yes. That's the intention of this.

THE CHAIRMAN: You understand that that's not quite how we understood it, but I understand it in light of your evidence this morning.

A. Again, I understand as I've gone on that answers -- I was assuming --

THE CHAIRMAN: A knowledge which we didn't have, thank you.

A. Which I ought to have known you didn't and I apologise.

MS ANYADIKE-DANES: There is a point that's important and I just want to be clear on it. I have understood from your last answer that you have conceded that there was major blood loss in Adam's surgery.

A. Yes.
Q. Thank you. Can I ask you, if there was, whether there was any discussion between you and Dr Taylor about the major bleeding?
A. Well, my evidence is that at no stage in the operative procedure of Adam did I hear anything that caused me alarm.
Q. That's a slightly different question.
A. Well, by definition, to a surgeon, if somebody was telling me there's a lot of bleeding here --
Q. Sorry, I beg your pardon. A slightly different question. Since you are the surgeon, it is your acts that are causing the bleeding, if I can put it that way --
A. Yes, you can.
Q. -- was there was any discussion between you and Dr Taylor about the fact that there was major bleeding?
A. Not to my recollection.
Q. Did you tell him anything about blood loss?
A. Other than to reassure him that I was where I felt it should be at. As I described it, it's a two-way constant communication: how is Adam, I'm doing fine, it's slow, a bit of bleeding. That type of thing. I would tell -- you see, a surgeon will automatically assume there's going to be bleeding. But there are

points in operations where you know there's a potential -- so you'd say: look, I'm going to do something quite difficult now, you need to be ready if something happens, you need to be ready with blood, et cetera, to go. But those kind of conversations I can't recall specifically because they're so -- this is the intimacy of the relationship between the anaesthetist and the surgeon.

THE CHAIRMAN: Okay.

A. I will warn you, that's the point. I'll tell you where I am.

MS ANYADIKE-DANES: And I appreciate that you're saying that you can't specifically remember whether you did that or not. But just so that we're clear: you're saying that it would be your practice to do that?

A. Well, yes, and put another way, if I didn't do it in Adam Strain, it's the first time that that omission ever occurred in my 30 years of surgical practice.

Q. Right. Then maybe we'll move now to the conduct of the surgery itself. Perhaps if we go to your witness statement 006/2, page 5. Up at the top, right up at the top under (a), you're being asked to explain, blow-by-blow, through half-hourly intervals what you were actually doing during the course of the surgery. And you have answered: well, we don't do it like that,

we don't record that sort of unit of time. But what you did do is you gave us the order, I believe, in which you did things or the phase of activity, if I can put it that way.

So your first bullet starts off with "incision, identification and exposure of the vessels". Then you go on to "isolation of the vessels", then "cleaning and preparation of the donor kidney" and the "vascular and ureteric anastomosis" and then "wound closure".

Just so that we're clear, you say:

"However, the steps in procedure are those."

Are those the steps in the procedure for Adam's actual surgery or just what you would usually do?

A. Sorry, I'm just reading it.

Q. Yes, of course. (Pause).

A. I would now change bullet point 3 if you asked me was this specific to Adam.

Q. That's what the question was designed to elicit --

A. I do see the point, yes.

Q. -- what you did throughout the period of surgery.

THE CHAIRMAN: How would you change bullet point 3?

A. This is transplantation. My practice was to generally clean a kidney in the clean room before in a sterile environment, but to leave the exact last minute trimming of patches and the trimming of the edges of the -- you

know, I wouldn't have cleaned and trimmed and prepared it exactly for the implantation because I would have done just immediately, I would have sized the ... This thing came with a big patch so I wouldn't have done the actual sizing of the precise -- the precise sizing of the patch to the vessel until the actual, as I was looking -- just before I was about to commence this procedure, I would have done it then.

So I would accept -- if you could accept that this is cleaning and preparation in that sense, I ...

MS ANYADIKE-DANES: We're just asking you what happened.

THE CHAIRMAN: Sorry, does that mean that you start to clean and prepare the kidney before the operation starts and you finalise that during the operation?

A. It's like fine-tuned it, yes. Sorry, thank you.

MS ANYADIKE-DANES: In the times that you have given us of what you were doing and where you were doing it on the morning of 27 November, when are you doing this, the first trimming of the kidney?

A. I would take a look at the kidney and take off the gross fat well before the operation ever commenced.

Q. I understand that. I'm just trying to understand when. In your evidence, you have identified a number of things that you were doing with different people at different times and sometimes in different places. I'm trying to

see where now you are saying that you were looking and inspecting the kidney and taking off some of the fat and so forth. When and where was that happening?

A. Well, I would normally do that -- I've described ... If you can remember the rooms in standard theatre, although I don't remember. I described a clean area where the sterile --

Q. Yes.

A. In a sterile environment like that, I would normally take the kidney out of ice to make sure I wasn't going to run into any particular issues, look at it, make sure I was happy that I wasn't going to have an unanticipated issue and take, if you like, the fat off.

Q. Yes.

A. And then wrap it back up and put it back into its ice bath. And then just leave it.

Q. And roughly when would you have been doing that?

A. I would have been doing that any time between half six, half seven. It's one of the -- I ... This is a very quick ... I have way of doing the totality of it, which is unique to myself. For me, before the operation, I would have gone in and taken a quick look at the kidney, made sure that I now confirmed to myself that the information I know about the kidney is correct, and then just quickly trimmed off the fat. And I would have

done that somewhere -- I'm trying to remember. In the clean room. It wouldn't be in the main theatre because if there was a child being put asleep, it wouldn't necessarily be there. But somewhere, I suppose ... Well, I'd have that done around -- it would be one of the first things I'd be looking to do, 7, half seven.

THE CHAIRMAN: How long does that take, just a few minutes or longer?

A. In my technique of doing this just a few minutes. I need to make sure there's nothing that the form has looked at and I just need to strim off the major pieces of fat.

THE CHAIRMAN: Okay.

A. For my own technique then to do the fine tuning at about -- before I'm about to do this anastomosis.

MS ANYADIKE-DANES: Yes. In order to do that, you may have been here when I showed -- was opening the case and I showed some photographs of a surgeon doing precisely that: taking the kidney out, inspecting it and so forth.

When you remove the kidney from ice, which I think you have just said you would have to do in order to do that, even though you would subsequently wrap it up and so forth, that's a very significant moment, is it not? The UK Transplant form has a specific box for when you do that, when you have to insert the time; isn't that

right?

A. Yes.

Q. Okay. Let's pull it up. 058-009-027. This is a standard form that everybody has to fill, both at the donor end and the recipient end. And here's the recipient. In fact it says:

"This section of the form is to be completed by the recipient surgeon."

Which is you. And under that, it says:

"Kidney removed from ice at time."

A. Okay.

Q. And the time has to be inserted and then there is another very important time, as I understand it, which is when the kidney is perfused with the recipient's blood. You have to put the time there.

A. Yes.

Q. Adam's form has been filled in to say that the kidney was actually removed from ice at 8.30.

A. Mm-hm.

Q. But I think I understood you to say that it was removed from ice at some time earlier while you did some of your preparatory -- inspection and preparatory work.

A. Yes, and I can illustrate this, I have anticipated this line of questioning.

Q. Can I first ask: who gave the information that the

kidney was removed from ice at 8.30?

A. Well, because ...

THE CHAIRMAN: Do you know?

A. I don't know.

MS ANYADIKE-DANES: Is that recorded anywhere other than on this form?

A. Um ... I'm not sure. Have I seen this in his notes, kidney out of ice time, I'm not sure. A coordinator would fill this thing out and she may have ... Is it in the ... I think it's written somewhere, is it? Kidney removed from ice. I'm not sure. 0830.

Q. This is where Dr O'Connor got her information. Dr O'Connor had information about what the ischaemic time was and she got her information as to when the clamps were taken off of the she was looking at this form and got her information from this form. We know this form was completed by Eleanor Donaghy, but what it does say is it's supposed to be completed by the recipient surgeon. She says in her evidence that sometimes someone else will complete the form on the basis of information that's provided. She says she completed this form on your behalf and we can see her witness statement, but I don't suppose you take much issue about that.

A. No.

Q. What I'm trying to find out is: how could she have put in a time of 8.30 when that wasn't the time according to your evidence?
A. I think I now recall this issue. Yes, there is -- there must be somebody in the theatre who recorded in the notes that I took the kidney out of ice at 8.30 in the morning. I can't remember, somebody else must have --
Q. You might have, later on, taken the kidney out of ice at 8.30 when you're going to do the continuation of your work on it, if I can put it that way. But what I'm trying to ascertain is why you didn't communicate to anybody that actually that kidney had been out of ice earlier.
A. Oh, I get -- sorry. There's a confusion about this. Kidneys can be taken out of ice for 2 seconds, 3 seconds, and put back, you know. That doesn't mean they're going to get very warm. And there's one additional procedure in a child transplant operation, which is not standard in an adult. That's the position of the size of this adolescent kidney in relation to Adam.
Q. What has that to do with identifying the time that you take it out of ice?
A. Because, unlike any other transplant procedure, when I get to the -- when I've made an incision and I'm

trying to fix in my mind where this is going to go, how it's going to fit, have I got enough space to put this kidney that I'm looking at here now in front of me, how will it lie? I'm visualising the end --

Q. Yes, of course.

A. -- with what I would consider the expanded kidney. How will that fit? Is there any issue that it won't fit or do I need to go somewhere else? That decision is a separate decision in a child. Then you do that, take the kidney out of ice, and then you wrap it up, put it back in again.

Q. That wasn't your evidence a little while ago. Your evidence a little while ago was you took the kidney out of ice, had a look at it to see if there were any difficulties and then you started to take off some of the excess fat and one thing and another, which you refined at your third bullet in your witness statement. That was your evidence.

A. Yes, I can see now -- so you can take it ... In 1995, the descriptive way of a transplant surgeon doing it -- kidney out of ice ... The official kidney out of ice time is the official intent to start the anastomosis. Because it was acceptable to take the kidney out for a second or two -- 10 seconds, 20 seconds -- but put it straight back in. But as I trained, the actual official

time, ie if you transpose it, this time that I would therefore start the actual anastomotic procedure. That is what I understood, as the surgeon in 1995, to be the kidney out of ice time rather than these little interludes of taking it in and out to have a look.

THE CHAIRMAN: When you're in theatre and you take it out and you do what I will crudely call the final trim, does it go back on ice?

A. No. This is the anastomosis.

THE CHAIRMAN: So its final removal from ice is when you're in theatre and you take it from the ice to do the final trim?

A. And I'm now -- because I'm ... By the time I'm taking it ... If I can explain it, how I did it, you can ask me any questions. Basically, you set the arteries and veins, you've got to clamp them so they won't bleed, you've got to -- the first one is the vein normally so you have to make a little incision in the vein and you've seen that. That's done. And then the kidney comes out and you look visually at how the edges of the vein are going to look, how they fit, how they size. And then you do the same for the artery, in this case I just had to cut the middle of it off and just sew it together then. And then I look at it --

MS ANYADIKE-DANES: Can I pause you there? I have been

asked to address that point with you. We know it had two arteries on the patch and you have accepted that. Were those two arteries of equal size?

A. Yes.

Q. Thank you.

A. I would consider, as I practised in 1995, the surgical definition of kidney out of ice time is that time when you take the kidney out with the intent to start the anastomosis, although you may, in my individual practice, have perhaps, you know, the final trimming to do. I would never put it back into the ice as soon as I had taken it out to start this procedure. Adam was slightly different in that I knew that I would -- the patch ... You see, the problem with the patch is, if you leave a long patch, I have got to make a long incision in his artery. If you shorten the patch -- it's all about Adam -- the incision in Adam's artery is now much smaller.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Right. Now that we understand the order of -- I think you were dividing your third bullet, a bit of the third bullet was going first and the rest of it was staying in the third bullet.

A. Yes.

Q. So what I want to take you now to is your definition of

warm ischaemic time. Because if your order remains the same, you're making your incision, doing your further work, and then you get to what you had in your third bullet when you actually start to do further work on the donor kidney; is that right?

A. Yes.

Q. I think it's in your witness statement, 006/3, page 7. And then in fairness to you, I think that first bit of preparatory work, I think it's what you have tried to explain in answer to (e) to help you. It states:

"State if the preparation of the donor kidney was undertaken immediately before the vascular clamps were applied and, if not, state [inaudible] performed."

And you say:

"It was my practice to prepare the kidney before the skin incision."

Now, that preparation, is that the initial preparation that you are explaining to the Chairman, so that's what you mean there?

A. Yes.

Q. Okay. Then we asked you to state what the warm ischaemic time for the -- when it started for the donor kidney. Then you go on to actually explain a process and reach a view as to what the extent of the warm ischaemic time was. You say:

"The kidney was kept in swabs, wrapped in slushed ice [and so on] and during the preparation and return to the ice solution at the end of the preparation."

And you say that you can't state the time of the vascular anastomosis:

"But the kidney is wrapped in ice soaked swabs during the time taken to perform the anastomosis and the true ischaemia time when the renal vein clamp is removed to removal of the arterial clamp was seconds as there was no need to reapply them."

So you say for this donor kidney, the warm ischaemic time was seconds; is that your view?

A. As I defined -- and most urologists, but perhaps not all modern transplant surgeons, most urologists, and as I practised in transplantation, warm ischaemia time defined blood in the kidney, not -- you see, up to the point I released the clamp --

Q. Sorry, let me pause you there because I don't want you to be answering something I'm really not asking you. The whole point about the warm ischaemic time is it is a period over which there can be, if I can put it that way, some deterioration in the kidney. That's the point of it. So however you define it, what people are trying to get at is a period of time over which the kidney might actually suffer some sort of damage. And that is

likely to have, or might have, an effect on delayed skin graft and ultimately the success or not of the transplant itself. That's the significance of it, isn't it?

A. Yes.

Q. Right. So if we start with that, and then let's have a look at what the inquiry's experts say --

MR MILLAR: The witness was trying to explain maybe his definition of warm ischaemic time and he was cut off trying to explain that. That may or may not be terribly important, but I think certainly my learned friend did cut him off when he was trying to explain it.

THE CHAIRMAN: You're saying that your definition of warm ischaemic time might be rather different from the definition of modern transplant surgeons?

A. Yes. As I understand it, the definition of the term, kidney out of ice time is what my definition of what the transplant surgeons are saying is the second warming up time. That's my definition of kidney out of ice. Warm ischaemia to a urologist implies -- implicit in it is the presence of blood back in the kidney. By definition, therefore, I've had to release one of the clamps. The reason for that is whereas the second warming up time -- kidney out of ice time is controllable, once you start putting blood -- let's say

Adam's, which it didn't, started bleeding from the renal vein and we had blood in the kidney but had the clamps back on, now the kidney is in far greater danger of damage. And it was, as I practised it, defining -- it was refining, defining, the issue of ischaemia.

Kidney out of ice equals their definition of second warming up. But as I practised it and defined it, the critical thing -- the actual area where you'd damage it if you released a clamp and had to put it back on again, and that was how urologists define warm ischaemia.

MS ANYADIKE-DANES: Thank you. I'm very sorry I cut you off and didn't permit you to give that explanation. Can we have it from how I think you responded to the concern that I was expressing that you accept that that period where the kidney is out of ice, however long it may be, is a significant period in and of itself because the kidney, as it warms up, can suffer damage?

A. Yes.

Q. Thank you. So if we go to the inquiry experts' report of 203-004-063. It starts right down at the bottom when they're talking about anastomosis time. It's going to go over to the next page. I wonder if we could pull up the next page next to it, 064, so one can see them together?

If we see, it says:

"The anastomosis time is the same as the second warm ischaemic time. It begins when the kidney is removed from the cold and ends when the recipient's blood is perfused into the kidney. During this time, the assistant surgeon holds the kidney in a manner which facilitates the operating surgeon in performing the anastomosis, the join between the vein of the kidney and the veins of the recipient plus the artery of the kidney and the artery of the recipient."

So there is work to be done and:

"Because of this position, the kidney is in direct contact with both the recipient [Adam in this case] and also the gloved fingers of the surgeon. These two forms of contact, the ambient temperature and the energy of the strong operating lights mean that the kidney gradually warms, rising to a core temperature above 10C at approximately 20 minutes. During this time, the operating surgeon stitches the vein of the kidney to the chosen vein of the recipient and, in addition, the artery of the kidney is stitched to the artery of the recipient. If the surgeon is content with how the anastomosis has been performed, the vessel clamps are then released, allowing the blood into the kidney."

Do you recognise that process?

A. No. Well, I recognise the process, but it definitely is

not the way --

Q. But you recognise that process?

THE CHAIRMAN: It's definitely not the way what?

A. The way I would do it, but I recognise the process. It definitely would have differences.

MS ANYADIKE-DANES: I'm going to ask you about those. Do you recognise, though, that even though you're trying to wrap the kidney up, that there will be some process of warming, depending on how long that process continues?

A. Well, I would remove the word "trying". The kidney -- I was trained to a very specific technique in protecting the kidney from warming as I did it. As I trained with Professor Williams in the Hammersmith, if my gloved finger touched a kidney in the time, direct contact ... As I read this:

"Because of this position, the kidney is in direct contact with the recipient and also the gloved fingers."

If I understood that and I was assisting the professor who taught me, I'm not -- I would want to count my fingers.

Q. Let's look at two pictures, which I think are trying to show it, and then you can say how it's different. That might be easier to illustrate it in that way. I think 300-044-062. I think that's one. There. That's just a

kidney being worked on, as I understand it.
A. Well --
Q. Do you recognise that?
A. I recognise --
Q. Yes. So although there is some ice around there, obviously the kidney is not directly in contact with any ice and it's out of the container it came in, which was protecting it.
A. Oh, a kidney would never be in direct contact with --
Q. I understand that, but it's out of the container which was protecting it.
A. Yes.
Q. Yes, exactly. Then can we look at 300-045-063, I think? There it looks like there are two vessels there that are being worked on, but there's more work going on in the kidney.
A. Mm-hm.
Q. While that work is going on, the kidney is exposed, if I can put it that way.
A. Yes. This is very close to -- this is the final trim for that particular surgeon.
Q. Yes, but whatever it is, the kidney for that -- whatever period of time it takes, the kidney is exposed.
A. I personally wouldn't actually do it like it's demonstrated there. We were trained in the Hammersmith

to wrap the kidney as if it's in a duvet, nothing showing. The ureter would be flicked up and the only thing that's coming out that's in contact with warm air or cold are the vessels. You see that kidney is completely exposed to warm air. I was trained completely differently. I was trained to soak a swab, just have the vessels coming out, and the kidney is now wrapped in an ice-soaked swab with the ureter flicked up on to it so that no part of the kidney ever saw warm air. That is how I did my 250 transplant procedures.

I would hesitate to say, but in one way I don't recognise this. I would consider it ... Well, I've just described how I would do it.

MS ANYADIKE-DANES: Yes. Mr Chairman, I'm going to put to the witness something, and I wonder, given that we started at 9.30, whether it's not an appropriate time.

THE CHAIRMAN: Yes, we'll break for 15 minutes and be back at 11.15.

(11.00 am)

(A short break)

(11.18 am)

MR HUNTER: Mr Chairman, could you please give us about five minutes, if that is at all possible? There's an issue which has arisen, which I think can be sorted, but if you could allow us just five minutes.

THE CHAIRMAN: Okay.

MR HUNTER: I'm very grateful, Mr Chairman.

(11.19 am)

(A short break)

(11.24 am)

MR HUNTER: I'm very grateful to you, sir.

MS ANYADIKE-DANES: What I wanted to do was, firstly, to provide three photographs so that we can just visualise what you're talking about and, in the same way, you can say, "No, I wouldn't have done that, so that's not representative", or, "Yes, that looks like the sort of thing". Because it's quite difficult to envisage what you're actually describing in terms of trying to preserve the kidneys -- the chill, if you like, for the kidney.

So I wonder if we could first pull up 300-051-069. There we are. You had referred to some sort of wrapping around the kidney; is that the sort of thing you're talking about?

A. That's exactly the -- well, it's not exactly the technique, but --

Q. I understand that. If we look at 300-052-070. That looks like the two surgeons working; is that right? That is slightly further down in the sequence. I can tell you what that ... And that's the same sort of

gauze covering thing over the kidney, I think, in the surgeon's hand.

A. Other than they've let it slip -- the gauze is up. We were trained never to have a kidney, you know, out. Do you want I mean? We wouldn't have the lower end of the kidney out, just the vessels only. There was a way of doing the swab that -- maybe it was only Professor Williams' own technique. When we did it, the whole kidney, all of it, except these protruding vessels -- there was no kidney tissue visible under the ... All you'd be looking at is a swab, you'd see none of the kidney in the technique that I was shown how to do this.

Q. Okay. Then this might help. I had cited to you a figure for the rate at which the kidney warms up, which had come from the inquiry's experts, and I think it actually comes from a paper that one of them wrote, but in the course of it, they talk about the covering of the kidney and this might help you explain things.

It's 306-029-001. You will have seen this. It was provided towards the beginning, I believe, of these hearings. If you look at the top, this was presented at a meeting of the Association of Surgeons of Great Britain in 1989. For it, the Moynihan prize was awarded to John Forsythe -- that's the John Forsythe,

expert for the inquiry -- and others.

The whole purpose of it was to investigate how you would reduce renal injury during transplantation. If one looks at the little abstract there towards the right you can see just very quickly the point:

"Damage sustained by an ischaemic kidney is reduced by cooling the organ. For this reason, kidneys are rapidly cooled during the retrieval period and preserved at low temperature before implantation."

And then it goes on to say:

"When the kidney is removed from cold storage for implantation into the recipient, it gradually warms, which is called the second warm ischaemic time and a prolonged warming second ischaemic time has been shown to be a cause of acute tubular necrosis following transplantation. The temperature rise in a kidney during implantation has been poorly investigated and little work done to minimise that rise has been carried out."

And this is the point of the work they were doing. And the upshot of it is, if one looks over the page to 306-029-003, which is the usual discussion part of a paper, right at the top, they say:

"The study has demonstrated that the core temperature of kidneys stored before transplantation is

between 0 and 1 degrees C, a fact not always appreciated by transplant surgeons."

Then they talk about preserving it and then in the second paragraph:

"A number of studies have demonstrated that keeping a kidney cool during a period of ischaemia improves ultimate function."

Then they talk about the ways in which people seek to do that: pour cold saline intermittently on the kidney. They say that they have conducted an experiment to show that doesn't particularly assist and then they say:

"In order to obtain a satisfactory cooling effect, cold saline had to run over the kidney in a continuous stream."

Then they talk about the methods of keeping the kidney cool and using jackets. Is that what you're talking about, the jacket?

A. Well, it's like wrapping it in a duvet. We didn't have a system for continuous ice flow. The nurse would be -- some nurse would be requested to keep going over with the 20cc syringe to the ice bath to bring the storage which was ... I understand was 0 and 1 degrees centigrade. Ice damages you, if you touch your hand with ice, it's bad for you.

Q. Yes.
A. The actual was -- 0 to 4 degrees was the acceptable when I trained. So we had this fluid coming constantly --
Q. At what stage? When you're working on the kidney?
A. What I defined as the kidney out of ice time. By the time you get finished with transplant, your fingers should be quite cold.
Q. When you're working on the kidney, which is effectively to join the kidney up, all the work that you have to do on it, are you saying that a nurse is continually pouring cooling fluid over that kidney?
A. Well, very regularly as distinct --
Q. Very regularly?
A. Yes.
Q. In any event, a nurse is doing that?
A. That is part of the procedure.
Q. No, no.
A. Sorry, a nurse is doing that.
Q. Are you saying that is happened during Adam's surgery?
A. Yes.
Q. You recall that?
A. Well, I don't recall it, but there's a floor nurse, a circulating nurse. That would be her function.
Q. I understand these things, Mr Keane. I'm sorry to --
A. I don't recall it.

Q. -- appear pedantic. But it's quite important -- the things that you do recall and then other people know the status of that evidence. Because there are other witnesses going to come and will be asked about the things that witnesses have said.

THE CHAIRMAN: You don't recall it, but are you saying it was your invariable practice?

A. Yes.

MS ANYADIKE-DANES: Thank you.

A. My apologies.

Q. Leaving that aside, what is it you say the kidney is wrapped up in?

A. In the swab technique?

Q. In roughly the same sort of thing I showed in one of those photographs?

A. A slightly different technique, but the same thing.

Q. That you say is able to achieve a continuation of its --

A. No, I mean, that's ... That is why a surgeon cannot be -- you know, before you start all this, you would now turn to the whole team and say, "I'm out now because when I take this kidney out it's going to start to warm up, we're going to try and keep it as cool as possible".

Q. But it will warm up.

A. It's going to start to warm up.

Q. Thank you very much. That's really all I was trying to

establish. The reason for that is because I had misunderstood how you were defining the second warm ischaemic time. So it is going to warm up over a period of longer than the seconds in the way that you define?

A. That's right. And the reason we applied the definition of our warm ischaemia was the really dangerous warming-up was when blood was in the kidney. That's how we defined it.

Q. Yes. I wonder if we can go now to the actual surgical approach, the actual anastomosis. Before you do that, you have, I assume -- maybe I shouldn't assume anything and just ask you. Have you identified where the kidney is going to lie in Adam's abdomen, if I can put it that way?

A. Yes. That's the first confusion about, if you look at the logical timescale. At 830 hours, we are nowhere near ready to do the final bit, so I took it out to size it so I would know when I had dissected these arteries or vessels where, within a space of 3 to 4 centimetres, I needed to release the tissues around the arteries to perform the function. What you are using there is your experience and vision of what's going to happen. Unfortunately, in Adam's case because of the fibrosis and adhesions of his previous surgery, this was going to take much longer than normal -- that part of the

operation. So now I visualised the size, which and where artery I am going for. If I go there, is the kidney going to be a problem as I let it down to lie naturally? I have to assure myself that that's not going to be a problem.

It would be ridiculous to do this procedure and then find you couldn't actually place the kidney, having done the anastomosis and then, when I've done that, pop the kidney back into ice and, if you like, then the real work of this up and down -- because of the technical difficulty of rupturing a vein or something, began. I can't -- after 8.30, essentially a surgeon does not expect to hear any unexpected news because we have the plan, everything should be in order. I'll just need to listen now to Adam's blood pressure, CVP, and I need to listen to it in my mind. My mind works in ... I don't have to subconsciously ask a figure. You kind of know that the anaesthetist is telling you --

THE CHAIRMAN: I understand. We understand that.

Thank you.

MS ANYADIKE-DANES: Can we just pull up two of your previous witness statements to see if we can clarify something? 093-010-029. I think you said the technical difficulties encountered during Adam's operation were related to the difficulty in gaining access to the major

blood vessels required for the transplant.

A. Mm-hm.

Q. "Another difficulty is the calibre of the blood vessels required for the transplant."

A. Mm-hm.

Q. What did you mean by that? What difficulty was posed by the calibre of the blood vessels required for Adam's transplant?

A. Well, essentially to a transplant surgeon, not having Adam open, you need to have an exposure to three vessels. The aorta, the common iliac and the external iliac artery. For a child -- a decision -- of that age, a decision has to be made, you know, you look -- well, an aorta procedure would never really have been on for this. So we're talking about the iliacs.

A decision has to be made as to whether you would put it on the common -- the external, but the kidney's too big to look at the internal, so that's out. So there's only really two choices and, as I practised, it really was essentially my decision. My surgical experience and decision matched the size of the kidney as to which vessel I choose. I can't remember all of this decision-making absolutely with Adam, but I would have felt I was experienced enough to make that decision at that time.

Q. Well, let's have a look at your witness statement, 006/3, page 6. But as I understood you, what you're trying to do is trying to find a vessel of, in a small child, of sufficient calibre to suffice for what is, actually, a rather large organ?

A. Yes, but in Adam, excluding the aorta, this is going to be a decision between the common and external, and exclude the internal, it's too small. So essentially, if you look at the iliac system --

Q. Let's try and help you with that so you're not explaining blind. 203-004-082. There we are. That is a diagram produced by the inquiry's experts.

A. Could I say to you that the best illustration is the catheter -- the bottom photograph of the catheter issue that you have. It illustrates it much better, the iliac system.

THE CHAIRMAN: Sorry, the photographs we were looking at a few minutes ago?

A. No, no, two days ago when we dealt with the catheter issue. I'll do it on this if you like.

MS ANYADIKE-DANES: Can we do it on this first so as not to take time?

A. Right. If you look at the big aorta, it goes down and branches left and right. That first branch, if you like, before the internal iliac artery -- do you see it?

Q. Yes.
A. That is called the common iliac artery. It's quite short in a small child, it can be very -- it depends on how a child is actually ... You know, there's long children and quite chunky children, if you like. I don't ... But that segment of the common iliac artery in a 4 year-old can be quite short.
The branch going down to the ...
Q. Sorry, Mr Keane. I hope you can press on with this diagram because we're trying to extract the right one?
A. The internal iliac is the one going down and the continuation of that common iliac artery is the external iliac artery, and that's known in the trade as the iliac system.
Q. Yes. Which are the ones that you say were the choices that were available to you?
A. Well, they were all available, but I would discount the aorta because I wasn't doing anything extraordinary. I would refer any child that I would have anticipated -- could have anticipated that this procedure for a child would require an aortic procedure, I would have referred to London. So in my competence range to dissect the common iliac, the internal and the external iliac artery in what I do daily for cancer surgery, I just do it all the time, whether it's difficult or easy. As well as

transplantation, I do it all the time for cancer patients.

Q. Yes, but you are usually operating on adults.

A. Because a child is -- yes, because physiology is, ie the way things work, is much different in children, but anatomy, unfortunately, is only a matter of scale. These vessels are just smaller, they're in the same place, they don't alter.

Q. Isn't that the issue: they are smaller in relation to the vessels they're going to be matched up with?

A. Yes.

Q. That's why I'm asking you. Do you not change your approach in terms of the veins that you use, bearing in mind that you're trying to look for the appropriate calibre, I think as you used it, if you have got a small child with, essentially, an adult kidney, as opposed to if you have an adult with an adult kidney?

A. I think we need to be absolutely accurate about nearly adult. What do you mean when you say "nearly adult"?

Q. A 16 year-old. Sorry, I used it -- sorry, I use the expression "essentially adult" because I think, at some point during your evidence today, you did as well. But let's leave that and say you've got a 4 year-old child with a 16 year-old's kidney going in.

A. Then I can, if you wish, take you through evidence

which, if you look at the larger 4 year-old to a smaller 16 year-old, sometimes you're not that far off the match. I would ... You'll never get it right but you won't be too far off. So as I was trained, there's a weight issue, you see. The literature I was reading was that in children of this type, 20 kilograms and over, these techniques were both available. There was no absolute issue that said you must not do this as the expert report has. I was unaware of that because perhaps I was reading the urological side of transplantation at the time, which is why I've supplied you a textbook that I would have read.

Q. Sorry?

A. I was --

Q. Sorry. Firstly, are you saying that the kidney, although it came from a 16 year-old, was actually a rather small kidney?

A. I'm suggesting to you that if you had a small person --

Q. I know that. I was asking you something quite specific. Are you saying that, in this case, the kidney that you were dealing with was actually a rather small kidney?

A. In my professional judgment, yes.

Q. Oh, it was?

A. Normal, but small, in my professional judgment as a surgeon who has seen quite a lot of kidneys. As

I looked at it.

Q. Quite a lot of paediatric kidneys? Oh, this was an adolescent kidney?

A. Yes.

Q. So in your view, this was a smallish one?

A. A smallish one, yes.

Q. Right, well, I wonder if we could just pull up, so that you have the point that I'm putting to you -- I am not sure this is the correct reference. I've been trying to get it for you. 203-004-084. No it's not the correct reference, sorry. I will try and come back to that.

This, I think, is the one that you wanted to refer to.

A. Yes.

Q. Is this the one?

A. Yes, this is the one. I'm not sure if this -- is this supplied by your experts?

Q. Sorry? This is provided by the experts, yes.

A. Right. I know that this would be open to debate, but if that's in a paediatric patient, as one would expect it is, then that's exactly the procedure I did. This procedure is on the external and the artery above it is the common.

Q. No, I'm not saying this is a paediatric one. This is an example of --

A. Okay. This is what I was doing, looking. As I looked at it, I never understood there was an absolute rule that it was the surgeon who decided from experience, given what he's looking at, that in reality, if you compare the relative sizes of the kidney I was doing in that operation and scaled them down as I looked at it, that this was an appropriate procedure for Adam.

Q. Sorry, I beg your pardon.

A. What I am trying to say is I was unaware that there was some absolute rule that you must not use. I think that concept came a little later than my practice. The issue as I -- I would illustrate what Adam and I had to decide, if you like. Is your artery big enough to accommodate what's going to happen to you in the view of a professional surgeon? Will I go up there a little or -- these are very short spaces. You're looking to try and gauge in live surgery a change of calibre which in some children is not terribly big. So as I looked at it, the difference to Adam to choose the common iliac artery did not preclude me from choosing the external. The reason that most transplants are done on the external is because there are several theoretical advantages which are quite -- I'll deal with them now or I presume I'll be dealing with this later. There are definite advantages to transplanting, if appropriate,

onto the external.

What I was viewing -- and this is the sizing issue, how big is this kidney? Can I imagine what it's like fully blown? Can I look at this artery? There we are. That's essentially what it was. I understood practice at 1995 is that I had not an absolute rule forbidding, but some discretion as to what an experienced surgeon -- I understand I hadn't done too many, but I'd done 200 transplants, that what I would suggest was the appropriate vessel would have been a clinical -- a decision of clinical freedom which should have been allowed to me in 1995.

Q. I don't think anybody's suggested that there was an absolute rule.

A. Okay.

Q. I think the point that was being put to you is that you've got very small vessels, unless for some reason they're larger than normal, for a 4 year-old 20-kilogram child. You're putting in a 16 year-old's kidney. That kidney has to have a blood supply at a rate and volume and so forth that is adequate for it to be properly perfused and to work effectively. That's the issue. The issue is one of matching. So that's what I was trying to ascertain from you: why you selected the vessels that you did select. But in fairness, I should

put to you what the inquiry's experts say.

If we can start with the report at 203-002-027. I think you have it:

"Children under 5 years of age or under 20 kilograms do require special consideration in terms of surgical approach and fluid balance. The surgical approach would usually be an extraperitoneal approach to the right iliac fossa with a view to using the common iliac artery or the aorta, the main artery of the abdomen, for the arterial anastomoses. And the common iliac vein or the inferior vena cava, the larger veins, for the venous anastomoses. An intra-abdominal approach may occasionally be required. There is evidence to confirm better outcomes when larger vessels are used."

And then it goes on to talk about anastomosis time. That's the issue and all I am asking you is: since you had available his larger vessels, why didn't you do that?

A. Can you go back to --

Q. Of course. 27, the previous page you mean?

A. Sorry.

THE CHAIRMAN: Put up the two together, 27 and 28.

MS ANYADIKE-DANES: Yes, that would help.

A. Okay. The issue for me, as the surgeon in charge of Adam, is not his age, it's his weight.

Q. I gave that as well. I understand that.
A. If you read it now and took out the age issue, "or under", Adam was over.
Q. 20.2 kilograms.
A. Which is over.
MR MILLAR: Sir, just on that particular point, it's something I was intending to raise yesterday with Dr O'Connor but thought it unnecessary. It's quite clear from his notes that the last recorded weight preoperatively is 21 kilos on the dot. Not 20 anything. I'll take you to that because it may be important for the surgeons, this weight issue.
MS ANYADIKE-DANES: I'm very grateful. It's a point that we are actually going to take up with the nurses because there are a number of weights recorded for Adam since his admission. That is an important element. We cannot resolve it here because the nurses, primarily, are those who are recording it and it's something that has to be addressed.
A. Yes.
Q. Because he's recorded at a range between 20, 20-point-something or other up to 21.
A. My understanding from the conversations -- you see, as I said to you when I was talking to Professor Savage, as we evolved the actual decision to do this procedure, the

first thing you do in any child -- and I had experience of paediatrics -- is height and weight.

Q. Yes.

A. Because essentially that tells you: is this a child who's underweight? No, I won't do it. Is he in the normal weight or above his weight? Yes, I will do it.

Q. I understand that. I understand entirely that, which is why it has to be clarified. 057-010-013. That is his fluid balance and IV prescription sheet for 26th. So that is what was operating from -- if you'll pardon the use of that expression -- starting from the 26th to the evening of his admission, and there you see his weight, 20.2.

MR MILLAR: Actually, if we bring up what we know to be, in terms of time, the last recorded weight. It's at 058-035-133. Just down towards the bottom, three lines up. That is on the 27th. It's after the cross-match has been found to be favourable. It's Dr Savage going through his plan immediately before Adam goes to the theatre. And there is a straightforward unambiguous weight of 21 kilos. And to the extent this is important, and it is important from a surgical point of view, I think we should stick with the weight that seems to be most relevant to this surgery.

MS ANYADIKE-DANES: Thank you for that. What I'm going to

do is ask Mr Keane to deal with the difference that it makes and then we can clarify with the nurses, who would be the people weighing him, if you'll pardon me, what they've actually done. Whether Mr Keane deals with it on the basis of if it were 21 kilograms or if it was 20.2 and then we don't have to recall him to ask him what difference it makes if the turns out the nurses have made some error.

THE CHAIRMAN: Does it matter?

A. Absolutely not. I was never trained to go on age; it was weight.

THE CHAIRMAN: If you're going on weight, then the weight is critical. Once the weight is over 20 kilograms, does it matter whether it's 20.2, 20.3 or 21?

A. To a practising surgeon, I mean, no. No.

THE CHAIRMAN: Do I understand it then that the critical point is that Adam is at least 20 kilos?

A. That's the point.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: Sorry, what I was asking you to explain is why you didn't use the larger calibre vessels that were available to you.

A. Well, the reason is that, at the surgery, I was unaware that I had an absolute restriction. I was aware in practice as there are urologists who do transplantation

and there are -- this is an evolutionary thing. So I was reading the urological literature, which I've supplied to you, and it indicates that there has to be some form of judgment allowed to a surgeon to decide. And as I looked at Adam, I would have thought, as you described the catheter thing, that I was relatively looking at that, not the actual kidney, but as I judged what this kidney was going to be like, the size of the vessel, the change in calibre from the top one to the next one did not appear to me -- you know, there wasn't a sudden big vessel and then a tiny little thing. This is a flow down and you ...

As a surgeon, you just have to make your mind up. Does this child who fits into the group of patients who can have, at the time, as I understood it, a standard transplant procedure, which has benefits for him, or do I need to go a little bit higher? And I looked and I sized and I looked. And in my view, I made a decision which I have never regretted.

Q. I understand that. Just one last issue on this. 203-002-038, which is the inquiry's expert reports dealing with the appropriateness of the approach. There they say the same thing that I think they've said earlier in terms of children under 5 years of age. We've seen that before.

THE CHAIRMAN: Paragraph 4.13.

MS ANYADIKE-DANES: Thank you, Mr Chairman. Then the second bullet:

"In a larger teenage child, it would be acceptable to use the external iliac artery for the anastomosis, but in a young child aged under 5 years of age, it is unacceptable to use the external iliac artery. This would significantly increase the chance of renal artery thrombosis and the loss of the kidney. Conventional practice both in 1995 and now would be to use the larger common iliac artery or aorta."

So they have said what the conventional practice is, so far as they consider it to be and why. And all I am asking you is perhaps just your response to that.

A. Well, I ... I know the experts are very expert surgeons, but they're different surgeons to Mr Keane. They're pure transplant surgeons. I was a urologist. I read the urological literature in regard to transplantation and, if you read the standard text book, we didn't look at age, we looked at weight. And it would have said: in children of 20 kilograms or over, all of the following techniques -- all of them -- are essentially available for use in children over 20 kilograms and adults.

So it implied to you that there was a certain

discretion as to what a transplant surgeon would actually -- how he would make the decision. You make the decision -- unfortunately, I couldn't bring a machine in that would tell me, "No, don't do that". I had to do it.

THE CHAIRMAN: So your response to this is to say that that criticism was based on Adam's age, whereas your primary -- the primary factor for you is his weight?

A. His weight.

THE CHAIRMAN: Thank you very much.

MS ANYADIKE-DANES: You wrote a section in a book of transplantation, isn't that correct?

A. I did.

Q. In that section, which I'm now trying to find -- I've been trying to find the relevant reference to it -- you had a section in that where you dealt with the surgery involving children.

A. Yes.

Q. I think in that section, you talk about the surgical approach --

A. Yes.

Q. -- if my memory serves me.

A. Yes.

Q. Let's have a look at it. I do apologise for all the shuffling about. I think it's 070-023i, I think. Let's

start there. 254, maybe, if we add that on. 070-023i-254. If we move through this, we will get to the section that deals just with children. 257, sorry.

Here we are. Transplantation in children. Then you deal with the disparity in size and you say:

"It is possible to transplant an adult kidney into a baby less than one years old. The kidney must be placed ..."

And you say how it has to be placed.

Can we go over the page? Vascular anastomosis:

"When an adult kidney is transplanted into a child, vascular anastomoses do not pose any technical difficulties, provided the graft vessels are anastomosed onto suitable sized recipient vessels such as the common iliacs, aorta, or vena cava."

A. Mm-hm.

Q. Is that what you did in relation to Adam?

A. Well --

Q. Sorry, there's a very simple answer to that. Is that what you did in relation to Adam?

A. I would remove the "common" and put" iliacs". That is what I did. But a procedure as defined by that, very similar to that.

Q. Sorry? The common iliac is a particular vessel.

A. I did not do that.

Q. You did not do that. Thank you very much.
A. Sorry, I apologise.
Q. Thank you.
THE CHAIRMAN: The obvious point then is, if this is what you're writing and advising, why is it not what you did?
A. Well, if you -- I would read it slightly differently. "Such as" meant -- "such as" rather than me saying there is an absolute need. I was saying such as because that would be the common --
THE CHAIRMAN: So you're giving examples rather than a definitive list?
A. And also it doesn't accurately reflect the issue. When an adult kidney -- this was not an adult kidney. You see, I wouldn't have transplanted Adam into his own age group. If the kidney was from a 4 year-old, I would not have done that. Adam was receiving -- which in transplantation terms was the best, it was adolescent.

If you retrieve small kidneys and try to put them back in, actually the outcome -- although if you look at the match thing. If you perfectly matched Adam to a 4 year-old, 3 month-old, 20 kilogram child, I wouldn't have -- I would have said to the family, "This is not the best kidney". Although it's an assumption that you would make, actually small retrieved kidneys produces worse outcomes. So the matching I feel I had enough

experience to actually work the issues out.

MS ANYADIKE-DANES: Thank you. Then one final question and then we'll move on. Not about that approach, but about another part of your approach, which is --

MR MILLAR: Sorry, sir, just before leaving that approach, I'm sure it's -- I'm sure Ms Anyadike-Danes has just forgotten to put to the witness the fact that Mr Koffman does not criticise his approach. I'm sure she was intending to take him to that part of the evidence.

THE CHAIRMAN: I have been thinking about how we get through this inquiry in any time at all while putting to each witness any points which are made in his favour and any points which are made against. If we end up doing that with every witness, the hearing -- I'm concerned that the hearings become unnecessarily protracted. I'm entirely conscious of the fact that Mr Koffman, in effect, gives Mr Keane the green light on what he did.

I'm also conscious of the fact that the extent to which Messrs Forsythe and Rigg are critical -- there is some degree of criticism, but it's significantly less and obviously entirely different from the level and degree of criticism which Dr Taylor was subject to.

You can take it I've got the point without Ms Anyadike-Danes taking Mr Keane to it, and, Mr Keane, you can take it as read that I understand what

Mr Koffman is saying, and in addition to that, Mr Koffman's going to be giving evidence next week; okay?

MR MILLAR: I should have realised that, sir. It's just that in the questioning it looks as though one particular expert opinion is being put to this witness as though that is the evidence that is being adopted, certainly by counsel for the inquiry, if not by you, Mr Chairman.

THE CHAIRMAN: Just to make it clear, not only is that not right -- I understand your concern about the impression given. But I'm not bound by the evidence of the inquiry experts and the very point of asking Mr Keane and Professor Savage and so on to give evidence is to tease out the extent to which there are differences and, when the inquiry's experts come to give evidence, they will be asked the same issues and they'll be asked, for instance, for their response to what Mr Keane has added in his oral evidence to what he said in his statements.

MS ANYADIKE-DANES: My learned friend Mr Millar has raised a very important point and I should make it clear: I don't have an approach. What I'm trying to do is put to the witnesses the points of difference, as I said in my opening. In my clinical opening, I hope I have taken a balanced approach to put before you,

Mr Chairman, the evidence as we have received it. In fact, if my learned friend were to go to page 133 of the clinical opening under the section "Surgical approach", he will see quoted parts from Mr Koffman's report that are in support of the -- or at least say that he might not have used that approach, but it was something that others did. It is cited there at length. And that is precisely the purpose because I certainly don't want anybody to feel that I have a particular line that I'm pursuing. I have always said that I don't have a line. But if I put to every witness all the other witnesses' statements that support that witness, we will never conclude this part of the hearing.

THE CHAIRMAN: That's the point I've just made.

MS ANYADIKE-DANES: So Mr Keane, if I could just ask you to explain something that I have been asked to address with you, and that is at your witness statement 006/3, page 6 in answer to question 9(a):

"I made an incision in the right iliac fossa and opened the peritoneum, where I found dense, matted adhesions. I then exposed the retroperitoneal space and identified the vascular structures [and so forth]. I isolated and gained control of the iliac vessels and sutured the donor vessels to recipient vessels and then re-implanted the ureter. I closed the bladder and

checked the kidney for perfusion."

So the point I've been asked to raise with you, because it's not entirely clear, is: does that mean that you started with an intraperitoneal approach and then ended up with an extraperitoneal approach?

A. No.

Q. Thank you. Had you penetrated the intraperitoneal space?

A. Yes.

Q. Thank you. I wonder if you can help with a point about the removal of the clamps. That, I think you had described, as a very significant point because you have carried out your anastomosis and, as I understand it, the removal of the clamps means that the blood of Adam is now going to mix with the blood that is in the kidney.

A. There's no blood in the kidney. There's only --

Q. Go into the kidney.

A. Yes.

Q. That is why, as I understand it, at that point in time, immunosuppressant medication is prescribed and you want to know, I think you said, what the CVP is before that happens.

A. Yes. I mean, this is, if you like, a moment of pause again. I would invite everyone to come and see this

phenomenon because, as Dr O'Connor said yesterday, this is -- so everybody who had been working with me, I would invite them formally into the theatre to watch the rebirth, if you like, of the kidney. It is a dramatic event. You check everything again, particularly now the blood pressure. Is the anaesthetist ready for this? Because what's going to happen, planned, is we're going to release the venous clamp, blood is going to flow, I'm going to stop it again, then I'm going to do the arterial side.

As soon as I open Adam's arterial side, that's his point. Is his blood pressure going to go down to such a level -- this is all predictable.

Q. I understand that. But this is the question I want to ask you now that I've understood that you concur. When you were giving your evidence earlier, you referred to asking on a number of occasions about the CVP. In fact, I think it starts on the 23rd. I have the part of your evidence, really starting at page 83. And when you say at line 2:

"I would have said -- I would have talked to him on 20 occasions: how is Adam, what's his CVP?"

Then you go on. And then at page 84, in line 21 and line 22, you say:

"But every time you do that [that's coming up for

air] you say: how is Adam, is everything all right?"

And then at page 85, starting at the top of the page, line 1, at that stage you're really being pressed with whether you're really just asking if he is just all right or whether you actually want to know what the CVP level is.

A. Yes.

Q. And you say at line 2:

"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, you have said that this point that you have just reached where you're about to release the clamps is a very significant moment indeed. What I want to ask you is: did you ask Dr Taylor what the CVP number was?

A. Can I phrase this? If I didn't, it was the first time in my entire surgical practice of over 200 transplantation procedures that I did not. Because I cannot say under oath that I did. Under oath, I can't specifically say because I -- you know, it's just -- this is ...

THE CHAIRMAN: We understand.

MS ANYADIKE-DANES: The chairman has that.

MR UBEROI: May I rise there for balance in case there's a risk of moving on and getting confused. In fairness to

the witness, prefacing the extract just quoted by my learned friend, he had said there:

"I don't have specific recall."

Before going in to the first extract quoted. I simply rise to say that so that we don't go down a road where specific recall is confused.

THE CHAIRMAN: Let me tell you my recollection of it after reading through the notes again last night: even the number of 20 was obviously an educated guess at how many times he'd asked. He wasn't saying it was 20 rather than 19 or 21.

A. The management of transplantation is very specific. The pause before the clamp release is the critical point for Adam.

THE CHAIRMAN: Sorry, Mr Keane.

The point I was making was that when you said on Monday that you would have asked 20 times, you weren't saying specifically it was 20 times rather than 19 or 21 and you weren't saying that every time you asked, "What's the CVP?", you asked for a CVP number. But I think the question that was just being asked to you effectively was: this is a critical point, as you've said, and would you then have asked for CVP number? And your answer is: if I didn't, it's the first time I ever didn't do it.

A. Yes. It's inconceivable.

MS ANYADIKE-DANES: Just to develop that -- and if we go too far into speculation I know that my learned friend will pull me up. I appreciate very much that you can't actually remember in real time what you did. But your view is that you would have asked because of the significance of it. So my question to you is: if you had got -- there are two parts to the question. One, if you had got an answer in and around any of the values that we saw on that compressed trace -- so 17, 20, 30 or whatever -- what your response would be. That's one.

THE CHAIRMAN: Shall we leave it at that for the moment?

A. Again, it's surgical insight. For the transplant surgeon not to have formal handover of the figures, "Are you ready to support his blood pressure when I do this? Do you have all the drugs you need ready? Because I'm going to do something very dangerous to Adam right now". For a transplant surgeon not to do that would be clinically negligent.

THE CHAIRMAN: I think the question was: assuming that you asked the question, if you'd got a reading at 17 or 20 or those high numbers, what would you have done?

A. 17, I'd immediately ask him: are you telling me it's 17 or is it some effect of ventilation? You add about 5. What are you telling me? Because I had better get the

clamp off and get the 17 down because he's in trouble. What are you saying to me? Get Dr Savage.

Can I put a visualisation of what I am doing? I'm listening to a continuous story and it's designed for me never to hear it. If I heard anything out of where I'm in range, there's an immediate crisis. What's going on? Why am I not listening to the song any more? Adam's well. I visualise it as a kind of ... I do apologise.

MS ANYADIKE-DANES: I understand what you're saying. I think it can be condensed down to: if you'd heard any of those values, there would have been an immediate response from you. So then may I --

A. Yes.

Q. -- move on to my second question, which is: if you had had an answer that, "Actually, I don't know what the absolute figure is because there's a problem with the machine", what is the effect there?

A. Everything that happens to Adam, which is not expected or is abnormal, you're instructed by me to let me know. That's the whole point.

Q. You have said that before.

A. Immediate pause, get Dr Savage, get help, there's something wrong, it's not right. You know, it's -- I can't describe this to you.

THE CHAIRMAN: Sorry, the point is: if you had been told

a high number, you'd have said --

A. Stop, let everybody sort it out.

THE CHAIRMAN: If Dr Taylor had said to you, "I don't know what the number is because I can't rely on the reading --

A. Then everything's gone. The whole thing has to stop.

THE CHAIRMAN: Does that mean everything stops too?

A. This is the point: I visualise myself as listening to reassurance. He's there in the place of his mother if you like. I need to hear it all the time: is everything all right? Any variation in the transplant procedure that says there's something I don't understand, I'm not so sure, ask me, let me up for air, let me decide. The contract between Adam and the surgeon was probably one of the -- you know, I have to know everything.

THE CHAIRMAN: I understand, Mr Keane. I think you were just being asked a specific question. We're working on the assumption that you did ask --

A. I'm working on the assumption that --

THE CHAIRMAN: -- for the CVP because you always do. And this question is based on the assumption that Dr Taylor said to you, "I don't have a CVP number". Your answer is: if that had been the answer, everything would have stopped.

A. Absolute full stop.

MS ANYADIKE-DANES: Thank you very much indeed.

The UK Transplant form gives the anastomosis at 10.30 and that's in his notes. And Dr O'Connor yesterday said, as far as she's concerned, that's the same thing as saying when the clamps were released. Does that mean that to you?

A. Well, in the scale of this thing I would accept 10.30 as -- I would accept that. I can't confirm it, but I accept it.

Q. I understand that. I was just making sure there wasn't any difference. What's the colour of the kidney before then?

A. It's white. Ischaemic. There's no blood. It's a pale, cold thing.

Q. So if anybody was describing a kidney pinking up at 9.30, that wouldn't be possible?

A. Absolutely in this case -- I mean, absolutely impossible. We would then, therefore, have kept him asleep for another ... What were we doing anaesthetising -- if I was off at 9.30, why did we keep him asleep for another 3 hours and not attempt to wake him up for -- that would imply that I couldn't sew up a wound in under two hours. It's just impossible.

Q. Well, can I ask why there's an anastomosis time of two hours?

A. Well, I think that's the confusion as to this kidney out of ice thing.
Q. Sorry, let me slightly rephrase it because the anastomosis time has got itself into a bit of a term of art. The kidney donor form records that the kidney is taken out of ice at 8.30.
A. Yes.
Q. And it records that it is perfused with Adam's blood at 10.30.
A. That is right.
Q. Yes. Now, that has been described variously as the anastomosis time.
A. Wrongly.
Q. And what do you describe that interval as?
A. How long it took me to do an anastomosis?
Q. No, no, no, that period of time from when the kidney is taken out of ice until the --
A. As described in the notes, which I would have some dispute about, two hours --
Q. Not exactly as described within the notes because my understanding of Dr O'Connor's evidence yesterday, and we can try and find it on the transcript, is that she, I think, had taken the anastomosis as having started at 8.30, I think.
A. She took it, that's the point.

Q. That's why I'm asking you to clarify this, Mr Keane. Because that would have a 2-hour period --

A. You see, the only person there who had run transplantation in significant numbers was myself. Professor Savage has done a lot, but nowhere near -- because I'm an adult surgeon, I'm doing this all the time. People who come into a theatre to look at things and record something in the notes who have no experience -- the only person there who had any really significant experience of what is about to unfold now is Mr Keane. How could anybody who's seen one transplant expect to be asked to comment on its appearance or how it looked? It looks -- because they've never seen it before.

Could I expand this issue?

Q. Yes.

A. If you look at cold ischaemia as walking out of the door on a freezing day, your hand is cold when you come back in. That's when the clamps come out and it starts to warm acutely. Your hand will suddenly start to warm up and become very painful and, actually, intensely red. There's an awful lot of blood flow going in to this hand that has gone out to the cold and back in. Look at that as a kidney. It's cold, now it's back in a warm environment when the clamps come out. Exactly the same

process is going on inside that kidney now in this next minute or two as to that analogy. So you expect a kidney to (demonstrates audibly) and then you look for the period at which that chilblain type effect starts to settle because that's the entire point. You can't just say immediately that a kidney is now well perfused. That's why you wait for 10, 15, 20 minutes for everything to calm down so that you get an assessment of its real state, the state in which you are happy to close the wound. It's a very -- these are, I do apologise. They're simple concepts to transplant surgeons, but not --

Q. I understand. It's very helpful for you to say what your understanding of these things is. But in any event, in your view, there can be no possibility of any pinking up until you've released the clamps?

A. None whatsoever.

Q. Thank you. Adam's medical notes and records at 058-035-135, I think, record that the kidney perfused reasonably at the end. That is your note, isn't it?

A. That is my note.

Q. Yes. The first note is actually your surgical approach.

A. Yes, that's right.

Q. Would that be a good way to describe it? And you have signed that.

A. I signed that?
Q. Is that your signature there?
A. Yes.
Q. And then you write another note:
"Kidney perfused reasonably at the end."
And you signed that.
A. Yes.
Q. Why are there two signatures and two notes?
A. My recollection of it is I had been handed a message at some stage while we performed these manoeuvres that I needed to ring the City Hospital about something. I wouldn't take any detail about anything, just ring somebody, yes, I will tell them we're doing something.
Q. Okay.
A. I now write the note -- this is my recollection of it -- I write the note and I talk to somebody about maybe embolising a kidney over in the City Hospital. That's my recollection of the phone call -- that there was a kidney bleeding which we needed to embolise.
THE CHAIRMAN: Can I confirm this is your actual recollection rather than your reconstruction?
A. The first time anybody ever asked me about this was the police interview. They said to me: what are the circumstances? So all I could remember was the phone call. There's a problem that -- I needed to look at the

potential to embolise a kidney. Then I come back, I need to leave now as long as Adam's all right, I check everything's all right and then I forget that every transplant surgeon should make a comment as to what, in his experienced view, what this kidney is like. You shouldn't go away and say: look, this is not great, there might be problems and I'm going to chance it. What I was implying in that note is I had come back in, checked on Adam, and looked at the kidney -- because that's all I was interested in -- and make sure that this issue that I had finished, this transplant procedure with the ureter in, everything go, the hyperaemic phase that I've described to you --

Q. We are going to come back to that in a minute. I simply want to know why you have two separate notes and signatures.

A. Because I had forgotten in, my issue of going to make the phone call to see whatever was over there ... I realised that essentially you need -- I need to let Dr O'Connor know that, in my opinion, this transplant was now reasonably perfused and she could probably anticipate that there were going to be no absolutely immediate issues with the transplant itself.

Q. So it's just because you forgot to put that piece of information on?

A. Yes, you should always do it and I had realised as I made the phone call that actually I hadn't made a comment about the perfusion. So I went back in to do it because I was going back in to look at -- make sure, one last time, that I was happy that the kidney was perfusing.

Q. So are you saying that you left the operating theatre to take a phone call about something and, whilst you were out or before you went back to deal with Adam or to check with Adam, you made this note, then you went back in to have a look at Adam and just satisfy yourself that everything was all right, and then you made the next note; is that what you're saying?

A. That's it.

Q. Then what did you do?

A. Well, when I had -- I probably ... I don't recall any of this. The only thing I can recall is the embolisation issue and the message. I would have said to Mr Brown: look, I'm happy, would you mind closing the wound for me because there's something I need to go now over to the City, would you mind?

Q. Did that thing that you were going to go back to the City for relate to the telephone call you'd received?

A. Yes. This issue that there was a kidney needing embolising.

Q. We'll come to that in a minute.
THE CHAIRMAN: Sorry, the additional note that "the kidney perfused reasonably", is that made on the basis of an observation before you went of to call the City Hospital or after you came back?
A. No, this is the last check.
THE CHAIRMAN: Okay.
A. This is the view of a surgeon who has looked at -- had many technical problems, dealt with those, that Adam's kidney is ... Yes.
THE CHAIRMAN: I understand.
MS ANYADIKE-DANES: Just before we pass on to the next point, Dr O'Connor gave evidence yesterday about your use of the expression "reasonably at end".
A. I understand. If I had changed that to "acceptably" -- I was trying to convey the message -- wrongly now as you look at it in this environment 17 years later -- that a transplant surgeon of my experience had felt that this kidney was in a satisfactory position and sending a message to Dr O'Connor, who I couldn't actually go out and have a cup of coffee with, with the mum or anything like that: look Mary, I've checked it, it's okay.
Q. Yes. But it's a difference between whether -- I think her issue was "reasonably". And she said she would be -- I think she would have been expecting it to say

"perfused well" or something of that sort.
A. Yes, I could have said -- yeah. There were issues, you see, as you look at kidneys --
THE CHAIRMAN: I think the point is -- this is quite a narrow point. Her evidence seemed to be that by not using the word "well", "the kidney perfused well", you may have been striking a note of caution that it wasn't perfusing well. Is that --
A. You can look at it both ways.
THE CHAIRMAN: Is she right or not?
A. She is, from her point of view, because she's going to micromanage Adam. She needs to know exactly that when I left, I was happy. But to take a small child through a transplant procedure, you now need to go to Mary O'Connor who's going to check. A consultant physician is going to stay with the baby for the next 3 to 4 hours because, although you look and see, there may be problems which could arise with that kidney and you look and you said: am I going to leave a child up in a ward? No, you're not. Am I going to leave him in ICU? No, you're not. You're going to have a consultant physician attend a child every minute of the next 3 or 4 hours. That's how the system worked in Belfast in 1995.
MS ANYADIKE-DANES: Let me just pick up on that note of

caution. The reason I ask you is because there are different views as to the colour of the kidney and how it appears to people. So maybe if we start with 011-003-101.

THE CHAIRMAN: Can you check that reference?

MS ANYADIKE-DANES: That's the reference I have. Okay. Let's try it from another source. 011-013-093. This is your deposition which you've seen many times:

"Despite the technical difficulties, the kidney was successfully put in to the child and 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 ..."

So you are noting -- and this is the deposition you make six months after the event. Your evidence to the coroner is it might have started off all right, but it wasn't doing quite so well at the end of the procedure. And I think the reference that I was not being successful with is an even earlier time, I think it's 011-003-010.

There we are. You have seen this before as well. This is even earlier still. This is 11 December that you're writing this. It's exactly the same language because we know that that gets translated into your

deposition, same thing:

"I successfully put in the child ... perfused quite well ... produced urine ... end of procedure, obvious that kidney was not perfusing as well as it had initially done."

And you go on to explain.

So what I'm asking you is: is that the reason why we don't have "perfused well", but you have the word "reasonably"?

A. Yes. I mean, I -- you anticipate the chilblain effect and what they call the re-perfusion injury. In other words, when you re-perfuse a kidney like that -- I can only explain this in trying to give you a visual representation. If you imagine a kidney which has been cold, suddenly warm blood comes in, it's going to get this chilblain effect. It's going to need warm blood and it's going to go through that process that you would -- that intense pain in your hand. It's going to release all sorts of things into it as it's rewarmed. That's called re-perfusion injury. There's a lot of -- this is the whole point of the management of transplantation. This is the critical thing.

So there's -- all hell has broken loose inside the kidney because of the re-perfusion injury you can anticipate. It happens in everyone. So that's why

transplant surgeons are so focused on looking at these things. Is it going and how is it going? And you wait 20 minutes looking -- just looking at it.

Q. Not to interrupt you too much, but the point that I was looking for is: you're accepting that it was perfusing less well at the time you left than when you first inserted the kidney?

A. Yes.

Q. Thank you. And it had also been described -- and Dr O'Connor was dealing with it yesterday -- as looking bluish at the end of theatre. Let's pull that up. 058-035-136:

"Kidney looked bluish at the end of theatre."

A. Mm-hm.

Q. Is that how you recall it?

A. No.

Q. You don't ever recall seeing it looking bluish?

A. No.

Q. But, of course, you did leave before the wound was sown up.

A. I left when I was satisfied that the perfusion of -- that this kidney was perfusing reasonably well, as I put it. I left when I was satisfied. Can I make a comment?

THE CHAIRMAN: Of course, go on.

A. With respect to everybody in that environment, the only

person who could decide the issue was one person and that was me. Because Dr O'Connor has looked at one transplant ever before in her life, if I remember her -- she had come in to see it. So I understand what she's saying, but she's never seen the process. She's never seen the hyperaemia, the re-perfusion and the settling down and how we look at these things. She's never really seen that before. Once. I've seen it 250 times.

MS ANYADIKE-DANES: I understand. All I was really trying to get is somebody's visual description of things -- that's all -- as opposed to understanding the reason why it might happen, which is a slightly different point.

A. That's a different point. I have --

Q. You also say that you could feel the pulsatile flow and it produced some urine.

A. Yes.

Q. Are you absolutely sure it produced urine?

A. Well, you can't be certain unless you send the actual fluid to be analysed.

Q. But if you manipulate a kidney, can you not squeeze out a few drops of urine?

A. Well, you can squeeze out the perfusate and that's crystal clear. What I looked at, as I thought was happening -- I may have been wrong -- highly unlikely in my opinion -- but as a urologist who had looked at a lot

of urine, this was not ... What I saw was -- this is not water. The perfusate that you're talking about is pure crystal clear; urine always has a slight look to it, it's not crystal clear. I wasn't making the point. I just felt that I thought the kidney, as I was leaving, before I put the ureter into the bladder where I could never see it again, I just thought: yes, it's going to go. You know? I just thought it was, but I couldn't tell you what a drop of fluid contains unless I had examined it into the laboratory.

Q. Yes. The only reason I ask that question is -- well, it'll have some bearing on what people consider was the likely condition of the kidney at that time.

A. Yes.

Q. More to the point, which is an expert issue and not one I'm exploring with you, but more to the point, Mr Brown said, when he was first asked about it, his statement -- I think it's a letter he writes. 059-060-146. That's a letter of 20 December 1995. So very close to the events. He says:

"The perfusion of the kidney was satisfactory, although at no stage did it produce any urine."

A. Well, I could explain that.

Q. Yes.

A. I would think my focus and attention on whether a drop

of -- this thing was starting up may have been slightly more intense than Mr Brown's was at the time. I'm trying to say that the perfusion of the kidney -- do you think this is going to get going or not, is incredibly focused attention to a urologist who has done it. He may have been looking away. This may have been a drop or two that came out. You're absolutely right to say that it has -- could be perfusate, but I know what perfusate looks like because it's absolutely crystal clear and what I saw was not crystal clear. Therefore that's the association. It may be the kidney is going to start up now.

Q. I understand. In fairness to Dr Brown, I should put to you his PSNI statement, which is 093-011-032. He says:

"I notice that my recollection at the time was that urine was not produced and Mr Keane has stated that urine was produced. I cannot explain this small discrepancy. I may be wrong about the urine, but as far as I can recall, no urine was produced."

So however tentatively, he seems still to be with the notion that no urine was produced, but that is just a difference between you.

MS WOODS: Can I ask, for the sake of completeness, to build on that? We don't need to bring the page up. Witness statement 007/2, page 8, where Mr Brown is asked about

that again and he does state that the amount of urine which the donor kidney might have produced would be a matter of drops, so fitting in with what Mr Keane is saying.

MS ANYADIKE-DANES: Thank you very much.

You say, in addition to that, that you felt the blood flow effectively within the renal artery; is that what you're saying?

A. Yes. I understand this issue. Yes.

Q. And that you took that as evidence of good perfusion?

A. That is how a consultant transplant surgeon would assess that fact, yes, as distinct from anybody who knows absolutely nothing about it would try to imagine what had happened here. There's a -- in other words, there's a very simple way of checking, on the table, the distinction between feeling a transmitted pulsation or: is the kidney actually working or not? I can demonstrate it to you if you like, if that would clarify.

Q. No. I was going to ask you a question in relation to that. That is whether you're sure that's what you were feeling or whether it is possible that you were feeling the transmission of a pulsatile pressure wave.

A. I wouldn't expect a GP to understand this, but essentially, your kidney is like so (indicating) --

Q. Sorry, who is a GP?
A. I thought this issue arose from an advisor. Sorry, I retract that. Anybody to know this. If I could change that. That was inaccurate.

So you have a kidney (indicating) and you're wondering whether what you're feeling in the artery is the pulsatile flow. All you have to do with your two gloved fingers -- very gently now because the vein is the weaker part so you have to be very gentle -- just gently occlude. So the blood is possibly going in here (indicating) and you're just doing that to it to occlude it. If the kidney swells and the vein that you're looking at swells, it must be blood coming in and if it empties ... flow ... empty (indicating).

Q. Is that what you did on 27 November?
A. Yes, I did it.
Q. And do you recall doing that?
A. If it was not -- that's my invariable practice.
Q. Right, thank you. I wonder, as you get into the more technical elements of what you were doing and coming up to the finish, how much discussion are you having with Mr Brown? If I may preface that with something because this is one of the contexts in which I'm trying to understand it. Leave aside the slight debate of whether he was there for learning, training, experience

purposes, received a tutorial or any of the other --

MS WOODS: Sir, I don't think there is a debate. Mr Keane clarified in his evidence, I think it was yesterday, that he was not at any point now saying that Mr Brown was there for learning. Just to be absolutely clear.

MS ANYADIKE-DANES: We can be absolutely clear about that because I checked it and, actually, the last word I think he said was that he thought he gave him a tutorial. We can find it and we'll get back to it; I'm certainly not going to leave with the impression of something that's incorrect.

However that is resolved, I think you express the view that Mr Brown had an interest in watching the procedure and you were happy to have him there. And what I'm now asking is when a consultant paediatric surgeon has expressed an interest in being there to you and, if you know that that is the first time he's viewed that kind of procedure, what sort of discussion is there between you?

A. Just in the theory, just watch what I'm doing in practice in an incredibly difficult case and you can ask me any questions you like about, you know, how my thought processes are going, and just watch. And if you have a query when I come up for air, if you want a theory about what we're doing, how then anatomy is,

what's the immunosuppression, what going to happen, which clamps do you use. The surgical interest issues would be quite esoteric, but I'm quite happy to discuss incisions and the benefits and risks of incision, wound infection rates.

Q. I understand that. In fact, we have statement from you that says that at least one thing that you discussed with him -- which is 006/2, page 6. I think it's question 7(d), the answer to it:

"State whether there was any discussion in theatre about the colour of the donor kidney, and if so identify those involved ..."

And you say:

"Mr Brown and I discussed the colour of the kidney at the end of the transplant and we were both happy with the perfusion of the kidney at the end of the transplant procedure."

A. Well --

Q. Is that correct?

A. That is correct.

Q. Then here is the question: you have explained or stated, I believe, that Mr Brown had really no experience at all. How is Mr Brown going to be happy with the perfusion of the kidney if he doesn't know anything about it?

A. Well, a transplant surgeon has nothing else to talk about in that period, the intervening period. What else would a transplant surgeon be talking about now in that moment other than the colour of the kidney? And basically, Mr Brown knows what a -- he would know what an organ with a normal blood supply is. He confirmed that this looked to him, never having seen it, that this was a human organ which had a normal blood supply. But I --

Q. Sorry, it doesn't just say that, it says:

"We were both happy with the perfusion of the kidney."

In fact, you said it started off quite well, and then was just reasonably well at the end. When you say that "you were both happy with the perfusion", what is the discussion that you've had with Mr Brown that allows you both to be happy with the perfusion of the kidney?

A. Well, you see, I would have explained to him in detail the re-perfusion thing that I have just tried to explain.

Q. When would you have done that?

A. In time.

Q. Sorry?

A. In time.

Q. During the course of the surgery?

A. No, no. I'm trying to explain to a surgeon who has an interest in what's going on what I think is going on inside the kidney.
Q. I understand that, Mr Keane. I am just trying to find out when you had that discussion and explanation with him.
A. As this process of hyperaemia --
Q. No, no, no. When in time did you do that with him?
THE CHAIRMAN: Do you know?
A. I can only tell you when -- between 10.30 and the next 20 minutes ...
MS ANYADIKE-DANES: You'd have discussed that?
A. We would have discussed that. My apologies.
Q. So you have explained to him as you said. Then you move into the discussion that you have so that you can both form the common view that you're happy with the perfusion of the kidney.
A. Well, basically I wouldn't have paid much attention to what somebody who had never seen this procedure before was -- but I was happy to have somebody say to me, who knew what surgery was about, "Yes, that looks good". So that's all that means.
Q. Thank you very much. Once you have satisfied yourself about that, I think you then said that you had a message passed to you, you went out to deal with a telephone

call. While you were out, you made your note, came back in just to make sure what you thought was all right was still all right. Then you made your next little note and then went off to the City Hospital; is that right? Is that a fair summary?

A. That's my recollection.

Q. That's your recollection?

A. Yes, that's what happened.

Q. So maybe you can help us with this: this is your PSNI statement, 093-010-030:

"I had left at the end of the transplant procedure. I left Dr Brown to close the wound, which would have been the last 10 to 15 minutes of the operation."

Then I think you go on to say:

"The record I made in the notes was made immediately after I left the theatre and prior to me going to the City Hospital. I made my record in the clinical notes ..."

And you explain why you did that. So that doesn't exactly explain the process of leaving the operating theatre, making a note, popping back in and then leaving again. It might be that you just haven't described it in as much detail as that, but it doesn't --

A. Normally, to make a phone call, you wouldn't make a phone call from an operating room. So I may have just

taken the notes out to this kitchen that I can't remember. I was going to phone somebody because somebody had asked me to phone them. But there wouldn't be a telephone in an operating theatre because it would distract you. You simply wouldn't allow a mobile phone, a telephone, to exist in an operating theatre. It just doesn't happen because of the need for this constant --

Q. I'm not saying it does happen. I'm simply trying to understand what you're saying happened.

A. Then the record I made in the notes was made immediately after I left the theatre. Oh right, to make the phone call, I do apologise.

Q. Well, the other thing is that I think you were asked -- and we will find the reference to it in one of your statements. You were asked whether you, at any stage, left the operating theatre and I think your answer -- and we will find it -- was that you didn't other than when you -- just before the end when you had to leave. Dr Taylor has said that he did leave occasionally for comfort breaks and maybe his assistant did the same. But by contrast, you said that you didn't leave at all until you left slightly earlier to go and attend the emergency at the City Hospital.

A. Mm-hm. Again, I apologise for the way I've answered. To a surgeon, "to leave the operating theatre" means

a formal decision to pack a wound, get your assistant to close it, and actually leave the operating theatre to do something.

Q. I understand.

A. But not to -- and I can't ... I have to apologise for the accuracy. I'm doing this from a ... I have answered in terms of surgeons and surgery rather than trying to think so accurately as to ... That I left the --

Q. No, I'm just trying to clarify these things so they don't become issues for anybody else. We'll just deal with them now. I think that particular reference comes at 006/12, page 7, I believe. Can we put page 6 and page 7 together? It is there:

"I was absent for approximately the 10 to 15 minutes required to close the wound. I did not leave the theatre at any time before my ultimate departure."

A. Yes. That is the issue for a surgeon. If a surgeon is operating and has to leave the theatre, it means something has happened. So I did not leave Adam unattended by my surgical skills and care for him at any time.

THE CHAIRMAN: I should read that as you didn't read the theatre other than to take the telephone call?

A. A transplant surgeon would regard the operation over

when he implants the ureter and now he checks again the perfusion of the kidney and checks it again, checks the position, lifts it back up, puts it back in, looks how the kinking of the arteries might go, how does the vein look? And the obsession of this, I can't describe, because it's part of it. So once the final decision is made, you see, there's not a lot you can do once it's done. You can't actually do anything to it now except let it -- see if it can live.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: You've talked about how meticulous you have to be about that. Can I just make sure I understand. The position of the kidney, that's a very important thing?

A. Yes, because you implant it in the vertical but it's got to lie back. So you've got -- and it may be better that it lies this way (indicating). So you know, if you thought the perfusion of it was one way or the other, you're looking to see where the optimum position is.

Q. And to make sure, I presume, that no vessels are kinked or anything of that sort so it has a free flow of its blood supply?

A. Yes, that's correct.

Q. And that's very important?

A. Critical.

Q. And that's part of your responsibility to make sure of that?
A. Mine and mine alone.
Q. Thank you.
Then can I say now -- so -- just while we've broken there, just in ease of my friend. The reference to the tutorial, in case you're trying to find it, is 24 April. I think it's page 87, line 14 [completed transcript].
MR UBEROI: While we're tidying things up, might I add, on behalf of Dr Taylor, that I'm not aware of any specific evidence where he proactively recalls leaving the theatre. If I may say, his very sensible evidence was, in the nature of a long procedure like this, there may be comfort breaks and it may well have been that a break was taken to that effect, but no proactive memory of having left the theatre.
MS ANYADIKE-DANES: I understand, but I think he does make reference to comfort breaks and so forth.
A. Could I make a point on that. Adam required -- if Dr Taylor had not got a second, he was not allowed to leave the theatre. He could wait for his comfort break.
THE CHAIRMAN: So there should have been no point at which there wasn't an anaesthetist present?
A. Well, we're looking after -- yes.
MR UBEROI: And I'm quite sure that would be Dr Taylor's

view as well.

MS WOODS: Mr Chairman, I don't want to labour the point too much, but since you've been referred to the tutorial, Mr Keane was asked, "Did you have any discussions with Mr Brown about the transplant?"

His answer was:

"Well, I may have I don't -- please don't take this -- I may have given him a tutorial on it, but I wouldn't have, in any way, felt that I needed to ask Mr Brown anything about the procedure."

Thereafter, Mr Keane was specifically asked by counsel to the inquiry:

"And the issue is: are you intending to say that, just as you were teaching paediatric surgeons [that really being Mr Boston], you were also going on to teach Mr Brown about the transplant surgery?"

The answer was:

"No, not to my recall."

He was then asked again:

"I'm simply trying to find out [this is the point I'm being asked to clarify] whether you were indicating that one of the reasons Mr Brown was assisting you was to do with teaching and learning."

And the answer was a clear no.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Thank you very much indeed.

If we then go to your departure, after you have had your discussion with Mr Brown and you're both happy with the perfusion and the colour of the kidney, what, if anything, do you say to Mr Brown just before you leave?

A. Give me an immediate call if anything is happening, if you think --

Q. Sorry, I can't hear.

A. If anything happens to Adam, I'll be back here. That's all I would have said.

Q. Okay. And you then left him to sew up?

A. Yes.

Q. Is it possible that, in sewing up all of through the muscles layers which you had said was part of what he would have to do, there could be any pressure on that new kidney that you just transplanted which could have affected it or kinked its vessels in any way?

A. No.

Q. Absolutely sure about that?

A. Well, if I can expand.

Q. Yes.

A. I said I left -- by saying ... That statement is "sew the wound". As a matter of courtesy, I don't know whether I did this, but as a matter of professional courtesy to Mr Brown because of a surgical issue, the

first layer of closure of three is more technically difficult. In other words, it's easier if Mr Brown -- if I just wait for him to close the first layer. And then he continues the procedure as I'm now gone. So I haven't surgically, if you wish, committed myself. I just said: wound closure, it's staged. I'm not sure that --

Q. I'm sorry, I specifically asked you that. I asked you whether what you meant was -- and we will check the transcript so I hope I'm not misleading you. I believe I asked you whether you meant that he was being left to sew up all through the muscle layers and I think you said yes to that.

A. That is something I would -- I would rather explain. Maybe not all of them. There are three layers. Obviously, when you're closing, the first one is just easier to do. I'm not sure but --

Q. Can I ask you this: can you actually remember --

A. No.

Q. -- precisely what you left him to do?

A. No.

Q. And I think you were explaining that the first layer is more technical.

A. Yes.

Q. Can I then ask you a question about that? Is it

possible, in closing that first layer, to have the effect that I just put to you, which is to inadvertently apply pressure to the kidney, which could affect it in some way?

A. Only in the circumstance that the kidney was bulging into the wound. Can I explain? To a transplant surgeon, I would know if there was going to be an issue because sometimes the option is to leave the -- you could leave the wound open.

Q. Yes.

A. If necessary. The wound doesn't have to be closed on the very first occasion.

Q. Yes.

A. So unless I had got my sizing seriously wrong, realistically there was no chance of it ... In real time ... There is a possibility of it, yes, but unless I had made a large error of my judgment, it wouldn't happen.

Q. But since you go that road, that there is a possibility of it, if it does happen, what effect does it have on the kidney?

A. If it happens, there are obviously stages of it happening.

Q. Yes.

A. It would not be a good thing to happen.

Q. No.
A. It would tend to compress it and might cause trouble.
Q. Yes. When you say "might cause problems", does that mean it could compromise in some way or affect the blood supply to the kidney?
A. If the compression was gross enough, but it's entirely unlikely if the compression was -- there's just ... You see, you obviously are putting a perfused organ into a space. There's obviously going to be some compression. The question is: is the level of anticipated compression in your mind going to be something which would do what you are saying? So that is actually yet another one of the decisions that only I can say is a reasonable possibility and then ask a consultant surgeon, yes [sic].
Q. Let me help you with this. You have already said how extensive your experience is. As you are going along, you would be able to see if there was going to be any sort of problem. So if you were sewing the first layer -- and I don't know whether you sewed it or not -- but if you were doing it, you would bring to that all your expertise and experience. You know exactly what you're doing and, even if you thought that it was having some sort of effect, I presume you would now how to redress that at that stage.

A. That's right.
Q. That's the point that I am putting: you would know that, but you would know that out of your experience and expertise; you wouldn't expect Mr Brown to know that.
A. Absolutely not.
Q. Thank you.
THE CHAIRMAN: If you thought that the sewing up was going to be problematic, then one option was not to sew up at that point, as I understand from what you said a few moments ago.
A. Yes.
THE CHAIRMAN: What was the second option if you had to leave?
A. I couldn't leave if there was a reasonable prospect that -- you see, my primary duty was to Adam at that time. There was something urgent happening at the City, but I can just -- if there's a problem, I can just ring somebody and say, "Get the emergency on-call surgeon to deal with it".
THE CHAIRMAN: Well, that's what I'm getting at. Do I then infer from the fact that you did leave Mr Brown to sew up however many layers that you did not think that the sewing up was going to be problematic and that you were satisfied with this state in which you were leaving Adam?

A. Yes. I mean, a transplant surgeon has a duty of care to consider all of the possible issues. Every transplant surgeon knows that -- in this thing, that you can anticipate maybe the kidney won't close properly. It's just -- sorry. It's just natural.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: It's just natural to you, exactly.

A. Sorry, I do apologise for the confusion.

Q. No, no, the point that I'm getting at is obvious, really: that even if you had not thought at the outset that there was going to be a difficulty -- and, in fact, it's probably from what you say about your experience and expertise, it probably wouldn't be one for you -- but even if you hadn't thought there was going to be for Mr Brown, the issue is whether he would have the experience and expertise if, as he was going along, he encountered a difficulty. And I think your answer was: he wouldn't have that experience and expertise.

A. Yes.

Q. Thank you. At that stage, just -- well, literally just before Mr Brown starts sewing up, you've had to pop out, take a phone call, come back. Can you help us with who's in the operating theatre?

A. I can only ... It's just a vision.

Q. Yes?

THE CHAIRMAN: Well, is it a vision in the sense that it's something you recall or is it an Irish vision where people imagine things moving?
A. It would be more towards the latter.
THE CHAIRMAN: Okay.
A. I can only envisage going back to look at -- somebody's called me, what am I going to remember? All I remember is the kidney. I don't even remember Mr Brown at that stage. All I remember is looking at this kidney. That's what a transplant surgeon does. You just -- it's the kidney and it's the child. You know, the contract for me with Adam is critical because he has to receive the best surgical care. Nobody interrupts, I don't leave unless there's some mega-crisis and there are no phones. I give Adam -- up to the point I'm happy -- absolute, total attention to detail, et cetera.
THE CHAIRMAN: Yes. I think we've got that clearly, Mr Keane. The question is: do you actually recall who was present?
A. No.
THE CHAIRMAN: You inferred that Mr Brown must have been there because you handed over that final stage to him.
A. Somebody must have closed that wound and I infer from the notes that that was Mr Brown.
MS ANYADIKE-DANES: Can I ask you this question? And I only

ask it because there's been some evidence in relation to it. I'm sure you've probably seen that Eleanor Donaghy, who was transplant coordinator, has provided a statement to say that she came in to the operating theatre -- we'll call it up in a minute. But in any event, she came in because she had understood that Adam was in a rather bad way at that stage. We'll see the actual language she uses:

"[She] came in and when [she] came in, there were two surgeons there. The whole room was rather sombre."

That's not consistent with your description of how matters are when you leave. In fairness to her, she can't remember the time at which that happened, but was there ever a time when there was a real concern over Adam's welfare and you and Mr Brown are at the table looking rather glum and concerned about the whole thing?

Sorry, let me pull it up so I'm not just putting words to you that you can't see. 093-016-049. It's a very short statement, so it's very easy to see. She says she met Staff Nurse Clinghan in the corridor outside the theatres. She had been asked about who was present in theatre when she went in, so this is her second statement in relation to that:

"I can only say that I remember Patrick Keane (the surgeon) being at the table. There was another surgeon,

however, I do not recall who he was. There were other staff present in the operating theatre. However, I do not recall who they were. I remember when I was in the theatre wondering, 'Why are they continuing with the procedure if the child was supposed to be brainstem dead'. However, I would not able to say what part of the procedure they were at."

What is your comment on that?

A. I think she's right to wonder why two surgeons would keep going, but this is no recollection of mine. You see, the point would be, as I left -- let's say I had even left all of the wound closure and I left. You've still got another 10, 15 minutes before anybody would even dream of attempting to wake Adam up. So I just can't account for this memory, you know. Maybe it's a lot of emotion --

Q. I'm not saying that she's saying anything about anybody waking him up. She says that she remembers you at the table, another surgeon, other staff -- but she doesn't know who they are -- and wondering if they're continuing with the procedure if the child was supposed to be brainstem dead.

We can pull up her previous PSNI statement, which sort of sets the scene for this one, which is in fact what causes this second statement to be made. It's

093-015-048. There we are. She was asked to describe a number of things about the procedure of getting kidneys there, but leaving that aside, about a third of the way down:

"I recall meeting Staff Nurse Clinghan who informed me that Adam might be brainstem dead and was in theatre. At the time, she was based in Musgrave Ward. I changed and went into theatre where the mood was very sombre. I think the surgeons were still at the table, but I don't know what stage of the procedure they were at. I don't know what time it was that I went into the operating theatre."

Then she goes on to talk about the kidney donor information form. As a result of that evidence, she's asked to make a further statement and she makes a statement that I first took you to, which is where she identifies you as one of the surgeons. She certainly has two surgeons there and identifies you as one of them. So this is the context in which she makes that second statement and I'm simply asking you for your response to it.

A. Well, by definition, or as the evidence has been presented, the initial thought that he might be brainstem dead was when the surgery was over and Dr Taylor attempted to wake him up. While I can quite

easily see therefore that I had gone, it's not instantaneous, you see. Stephen -- Mr Brown may have closed the wound --

Q. Sorry, that's not really what I'm asking you. I am not asking you to focus on a time when Dr Taylor might have been trying to wake up Adam and been unsuccessful with it. I'm asking you to deal with the fact that she has described two surgeons being in the theatre, you being one of them, the mood being rather sombre and her having come in because she's given some information about the condition of Adam and that Adam was, effectively, dead.

A. Well, could I just say: there could be no inclination that Adam was dead until Dr Taylor tried to reverse the anaesthetic. We had no idea.

THE CHAIRMAN: And, by that time, you were gone.

I understand what Mr Keane was saying was that he couldn't have been there in the way described by Miss Donaghy because the dawning of the fact that Adam was brainstem dead doesn't come until after the surgery is over and after Dr Taylor starts to try to bring him round and he can't. And by that time, you're gone.

A. If a child is -- also, an anomaly in it is that if a child had had surgery and was being woken up, what would two surgeons be doing at the table?

THE CHAIRMAN: That was her point. To be fair to you, she

says in her statement, "I think the surgeons were still at the table". She then makes a second statement which is -- and she will be giving evidence so we can explore this with her -- in which she is more precise, saying that you were at the table. Could we put up the next one? 093-016-049.

On the statement on the left, the first statement, Mr Keane, she says:

"I think the surgeons were still at the table, but I don't know."

She's coming in at this point because she's been told that Adam might be brainstem dead. Then she says in her second statement:

"I've been asked who was present when I went in. I can only say that I remember Mr Keane being at the table. There was another surgeon; I don't recall who it was."

A. Well, I --

THE CHAIRMAN: Have I got your point that you weren't there at that stage?

A. Could I make a further point?

THE CHAIRMAN: Go on.

A. Here's a transplant coordinator thinking that everything is well, she gets somebody -- somebody tells her the child might be dead. Personally, when I heard in

theatre 6, I nearly fainted. So I can only assume -- I personally wouldn't place too much reliance on the accuracy of somebody ... If somebody said to you: what had happened, the child is dead, it would ... Well, I'm not sure that I would remember accurately who was where.

THE CHAIRMAN: Okay. I take your point. You can leave that for me, thank you.

A. Thank you.

MS ANYADIKE-DANES: We're coming close to the end now, Mr Keane. And that is your departure.

MR MILLAR: I wonder, sir, I know that you are keen to get on, but we're getting towards two hours of evidence and there's obviously a bit more to go and questions from others. I wonder if this might be a convenient time for lunch. We have to take lunch some time and it might seem to be a good time to do it.

A. I'm a surgeon, I'm used to this. If you can tell me --

MR MILLAR: I have to look after Mr Keane's interests, even if he doesn't always perceive it himself.

MS ANYADIKE-DANES: I have a few questions. As you can see, chronologically, we are really nearly there. I have a few questions and then I would like the opportunity to meet with counsel for the interested parties to make sure that there aren't any other things that they have asked me to address with you that I have somehow missed.

A. Could I break in your, whatever schedule, and then break before I come back for the ...

THE CHAIRMAN: For any additional questions?

A. I can break now.

THE CHAIRMAN: We'll sit again at 2 o'clock. And in the meantime, I know Ms Anyadike-Danes will be finished soon, and then I hope that any additional questions -- if there need be any after two-and-a-half days of evidence from Mr Keane -- can be sorted out. Thank you.

MS WOODS: Sir, I want to raise whether it is still your intention to call and complete Mr Brown this afternoon. I know you expressed that as a firm intention yesterday. That's certainly the way we would like to proceed. Mr Brown has indicated to me that he is prepared to sit as long as we need to this afternoon.

THE CHAIRMAN: Maybe you can clarify this: am I right in understanding that, after today, he and you are not available for a few days; is that right?

MS WOODS: Neither of us are available either Friday or Monday.

THE CHAIRMAN: Okay. I will tell you after lunch, but I'm determined to push on. Thank you.

(1.13 pm)

(The Short Adjournment)

(2.00 pm)

MS ANYADIKE-DANES: Good afternoon, Mr Keane.

A point that I was asked to deal with. It didn't fall naturally in what we were dealing with this morning, so it's a bit of a housekeeping matter. It may be slightly more substantive than housekeeping. It relates to Eleanor Donaghy and to how many transplant coordinators there were at the time. There was an issue as to whether she was indicating that she might be the one on call and perhaps there were others. It starts with the evidence that you were giving about that at page 13. The significance of it is that you were saying that the transfer of the exact information about the kidney comes from a conversation between the transplant surgeon and a paid NHS professional called a transplant coordinator. Then you go on to say:

"The indications are that the transplant kidney is acceptable to Professor Savage. I don't know what knowledge he had because I wouldn't rely on it."

That starts at line 21. And then you say at line 1:

"I rely on the conversation in the next five to ten minutes that I'm going to have with the trained person to interpret to me what's on the form."

And you're asked whether you're saying that means that you had a conversation with the transplant coordinator, and you say:

"Yes, it's the process, yes."

And I ask about that. You say:

"Eleanor Donaghy [at page 14, line 20] couldn't tell you whether there was one or two. It was in the era of 1990s and then there was only one. Which with one, I don't know. It would have to be Eleanor."

As we move on, I think your counsel wanted to be absolutely clear about what was being said and whether it was possible that there was one or other transplant coordinators. That appears at page 21 when your counsel, at page 16, makes the point and goes on:

"Miss Donaghy says her entire involvement in the matter will depend on her being on call and it certainly seems to me that it's implicit in that that there could be more than one person involved in the coordination of the moving of this kidney from Glasgow to Belfast."

There is a further discussion about that. Without going into all that, I think you understand the point.

Eleanor Donaghy has since made a further statement for the inquiry; she made it on 24 April. You should all have it. It starts at witness statement 100/5 and the relevant part for these purposes is page 2:

"I have also been asked to give an account of any conversation between myself and Mr Patrick Keane on the evening of Sunday 26 November 1995."

She deals with how she was appointed and when, in 1992, at the bottom of the page:

"I was the only transplant coordinator in Northern Ireland until May 1997 when a second post was funded."

Over the page at 100/5, page 3, paragraph 2:

"I did not discuss the offer of a kidney for Adam Strain with Mr Keane on Sunday evening, 26 November 1995, or in the early hours of Monday 27 November."

So that's her position. Of course, she's giving evidence so she can be questioned about that. But in any event, that is what she says about that issue.

THE CHAIRMAN: Do you accept that she might be right?

A. Well, I can explain it -- from her point of view, yes. But she could definitely be right. I can explain how this confusion arises.

THE CHAIRMAN: Please do.

A. Well, if you worked in, say, London like I did, we had trained coordinators, so what I was describing in the -- I don't know, in a properly set up ... In a -- yes, to a degree, in a properly set up system you would have trained coordinators, and we wouldn't be talking at all to physicians about the form. When you come back to Belfast, which I'd done, things were in development. If you look at what is being said here, this was

a coordinator who was on her own, as she expected the service to develop into what you would expect -- three, so there are now three. As you transition in the National Health Service, the only person who would read the form to me in 1995, if Eleanor was not available -- as she wasn't -- was the nephrologist. What I was indicating is that the proper way, if you want, the ideal way in a fully funded National Health Service, as distinct from the one I was operating in, is that I would not talk to anybody other than a trained coordinator.

THE CHAIRMAN: Okay.

A. That's what she does, if that explains it. I'm sorry if I have caused confusion.

MR MILLAR: I think, at a later point in Mr Keane's evidence, he was saying that if the system didn't allow for a sufficient number of coordinators or if the coordinator was not on duty at the time, he would essentially have been going through the same information with Professor Savage.

THE CHAIRMAN: And I also take into account what Professor Savage said in his own evidence.

MR MILLAR: It looks as though that is what did happen.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Thank you.

I tried to pick this up on the transcript, and I was unsuccessful, so I apologise for this, Mr Keane, but what I want to ask you very quickly is about the latter part of your evidence before we rose, which is that you went out, you'd received a message, you went out, made your note, came back in, and then left, made a note and carried on onto the Belfast City Hospital. It's one very specific point which required some clarification. When you came back in, I think you had said you wanted to satisfy yourself that things were indeed as you wished them to be. Can you simply describe what you did when you came back in?

A. What I would do is -- well, obviously you would go back in, approach the table, make sure that I had a clear view, and that I looked at it for 30 seconds, one minute, to make sure there was no change, no ongoing change, as I would look at it. I'm afraid, you see, the focus -- the way I work is I just focus. So I know that I would just look.

Q. I'm trying to find out where you are.

A. I've approached the table. By implication, I have become unsterile.

Q. That was the issue.

A. Sorry, yes. By implication, I'm unsterile. That's the purpose of a surgical assistant, to display to me what

I wish to see.

Q. I appreciate that. The issue arose because, as you have just said, having gone out like that and come back in, you are rendered unsterile.

A. Yes.

Q. So I think what the clarification was being sought is: well, when you came back in in your unsterile state, where did you go and what did you do?

A. I looked at the kidney.

Q. And where were you?

A. I was looking at it -- can I think? I think I can clarify the point if I can tell you. If the issue is I saw a problem, could I go back and wash my hands again and scrub up again -- is that the issue?

Q. There isn't an issue; I'm simply [OVERSPEAKING].

A. I do apologise.

THE CHAIRMAN: Don't worry about anticipating what might be coming next. At the moment, we're just trying to find out what you did.

A. I just went and looked at the kidney. I can't describe it in any other way. A surgical assistant moved out of the way, pulled whatever part of the wound I wanted to look at so I could see the kidney in a satisfactory manner. I looked at the kidney for about a minute, to be absolutely finally -- you see, the contract is

between me and Adam.

THE CHAIRMAN: Yes.

A. I have to finish some time.

THE CHAIRMAN: And again, I'm gathering by this stage in your evidence that what you're doing is you're telling this not from direct memory of what happened, but because this is what you would have done.

A. It's invariable.

MS ANYADIKE-DANES: Thank you. Then can we go to your departure? If we go to witness statement 006/1, page 3. I think it's the answer to question 2(iii). Yes.

This is your first witness statement for the inquiry. You say:

"I was called to an emergency at the Belfast City Hospital and Mr Brown, consultant paediatric surgeon, closed Adam's wound. Adam was stable when I left, 10 minutes prior to the end of the anaesthesia."

And then, in between, you're asked a number of questions about that in your witness statements and, I think, your most recent witness statement. So if we go directly to that, 006/2, page 6. I think it's the answer to question 7(c).

Yes:

"Describe and explain the circumstances in which you made that entry. I was called to Belfast City Hospital

to say [sic] that a patient who was undergoing a percutaneous nephrolithotomy was bleeding heavily in the operating theatre there and that they needed help urgently. I had finished the transplant: there was pulsatile flow in the artery and the kidney was reasonably perfused. I asked Mr Brown to close the wound, made a quick operation note and rushed to Belfast City Hospital to deal with the problem there."

It hardly needs to be said, but it's not entirely the way your evidence has come out today, but in any event, the significant thing might be that there's a medical emergency, if I can put it that way. You're told a patient undergoing that particular procedure is bleeding heavily in the operating theatre.

Then I think in your -- at 006/2, page 11, the answer to question 15(b). This is to find out where you were when you heard about Adam:

"I was telephoned (I cannot remember by whom) in the anteroom of theatre 6 at Belfast City Hospital, after completing the emergency operation there, to be told Adam was brain-dead."

I presume "there" does not mean in the anteroom but in theatre 6.

A. Yes.

Q. So we had sought to have some information on exactly --

what we had wanted to have from DLS was the theatre log showing what everybody was doing on the 27th. What we have, if we can pull it up, 301-131-001, is a letter to the inquiry's solicitor. It is providing the theatre logs, as we understand it, from the only theatre -- now, there is another letter which confirms to us that theatre 6 is the only theatre where that particular procedure could occur. And for those who just want a little more education about what the procedure is and the extent to which bleeding heavily is a risk, there is an information leaflet that the inquiry obtained from the department of urology. It's dated last year.

It's Tameside Hospital, and the reference to it is 306-026-001. The first page of it, 002, tells you what it is. And then if we go on to the next page, 003, you will see that it indicates what the risks are. It indicates "risks" and "rare risks". Under "rare risks" is:

"Kidney bleeding. Real. Severe kidney bleeding can occur, which requires blood transfusion or further surgery."

In fact, to my untrained eye, this was the only reference to bleeding that would cause an emergency. But it's there for people to see. I don't propose to be leading on it. It's just a document that we had found,

which may be of assistance.

The DLS, as I said, have advised that theatre 6 was the only place that such a procedure would be carried out. The theatre logs can be found at -- 301-131-002, is the start; it flips round. You'll see the dates on the far left-hand side. There's 27 November, another 27 November.

If you scrutinise that with your more trained eye than I for where your name appears, so far as I can tell your name isn't there, nor is the particular procedure you said you went to deal with.

If we go to the next page, 301-131-003, then we can see the date in the same place, but if we go down three procedures, we can see that your name is there and "flexible C/V". Anyway, that's one procedure associated with you.

There is another one as well, the same procedure, that you're involved in on that day. Then if one goes down a little bit further on, you can see "circumcision" and you're there with Mr Walsh. There's another circumcision immediately afterwards which has you involved.

Then if we move on to 301-131-005, right down at the bottom, you see 27 November. But nothing associated with you or the particular procedure you referred to.

Then 301-131-006. There are three references to 27 November. There seems to be no reference to you, though, as having done anything then and no reference to the procedure in question.

Finally, over the page to 301-131-007, and one sees one date of 27 November and there doesn't appear to be a reference to you or that particular procedure.

MR MILLAR: I think there just may be a misunderstanding about the document we're looking at. This doesn't seem to be the theatre 6 log that I have. I think some further logs were made available and, I think, somewhat tentatively, if I can suggest that we're on the wrong theatre log.

MS ANYADIKE-DANES: That may well be so. We have a number of theatre logs.

MR MILLAR: Sir, I don't know the easiest way to clarify that. It probably would be for me to approach Ms Anyadike-Danes.

THE CHAIRMAN: Please do. (Pause).

MS ANYADIKE-DANES: I think we might have been with the wrong theatre logs. The other theatre log is attached -- now, I don't have a reference for this. It's attached to ... I will find you the reference to it. You can't see it without the reference. If you bear with us a minute, we'll get that and maybe we'll go

on. And if I may ask you some other points that were raised with me to use time as best we can.

THE CHAIRMAN: If we could move on. We need to move on because Mr Brown --

MS ANYADIKE-DANES: I'm trying to find the other queries that other counsel have asked me, Mr Chairman. I am trying to move on, I apologise.

Could we go to reference 203-002-029. 3.2 there: "Organ retrieval and the offering process."

And then the third bullet. This is a report by the inquiry's expert surgeons and I think you have seen this bit before, but I had not drawn your attention to this particular point to ask for your comment:

"Many units would have concerns in accepting a kidney for a small child with complex problems that would have a cold ischaemic time in excess of 30 hours and with multiple arteries."

And I think the issue is whether you had any concerns about the fact that there were two arteries on a widely separated patch.

A. None.

Q. Why would that be?

A. The presence of the patch doesn't, in my professional opinion, increase the risk. It's only if the arteries are not on the patch.

Q. I thought you had actually given that evidence before to say your only concern would be if they didn't come with the patch. In any event, just in case there were some misunderstanding about it, your evidence is clear: there's no problem if you've got the patch?

A. Correct, and could I also comment on the 30 hours?

THE CHAIRMAN: I think we've covered that.

MS ANYADIKE-DANES: We've already done that.

A. Could I make a point? The original intention to treat was not anticipating the actual cold ischaemic time, when all the calculations were finally totted up, was going to be over 30 hours.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: Yes. Just one other point, which relates to your CV. You have, on a number of occasions, referred to your experience and expertise. And many of your questions have been answered, if you can't actually remember what you did, you've answered them in the way: my normal practice would be ...

The point I want to ask is: what is the period of time over which you consider any of those things to be your normal practice? When you make a statement "my normal practice would be", what is the period of time that you're referring to?

A. Well, in the time I was involved in transplantation I --

you see, transplantation is a particularly unusual thing. You need absolute, total commitment to be a transplanter. It has to be essentially -- after Adam's death ... So I felt that although I was -- the reason I gave it up wasn't for any -- it's just as a surgeon, when you're contracting with a small child to look after him, the commitment ... I'm sorry. What I'm trying to say is you need to be totally focused and committed to do this type of work. And after Adam's ... I just didn't have that. I knew -- I have tried to describe how my mind works. It's a funny business, but if I wasn't 1,000 per cent committed to the work I was doing, that doesn't mean I couldn't do it clinically; it's just the commitment, the actual commitment.

Q. Sorry, I think Mr Keane, we may be at slightly cross-purposes here. I am trying to see if I understand or, at least, can help others understand what that period of practice refers to because that is a common way in which you have answered the questions. If we go to your CV, 306-023-001, and then turn to the first page of it, 306-023-002. You have helpfully set out a summary of your clinical experience. When you say your practice would be to do one thing or another in relation to a paediatric transplant or any renal transplant, what I think you're being asked to do is to

say what period of time and where in your career that practice developed.

A. 1986 to 1995/96, somewhere ... 97 ... It's ... Basically, the end of it was when the full-time transplanter arrived. So from eighty --

Q. So when were you transplanting from, transplanting kidneys?

A. 1986.

Q. So when you talk about your practice in relation to paediatric renal transplants, that dates back to?

A. That depends on the definition. In small children, if it clarifies the issue, would have been from 1990 onwards.

Q. You were transplanting small children in 1990?

A. But I was in the paediatric group at the Hammersmith. It relates to how London organises. Mr Koffman would or Guy's -- they would do the kids, the young kids. We were an adult and adolescent service rather than ... In London, it was far more advanced in its organisation. In London, you would have the facility to, obviously, transfer patients between units depending on which speciality. We were essentially, in the Hammersmith, an adolescent/adult, essentially.

Q. Let me try to be more pointed in my questioning. In terms of you controlling things, if I can put it that

way, and developing your practice, which you had established and so on, you weren't a consultant until 1994.

A. Yes.

Q. That's correct, isn't it?

A. Yes.

Q. And, of course, Adam's operation is in 1995. So I think there is --

A. I understand.

Q. -- a point of clarification as to when it was you developed this practice as to how you went about things and how it is you can say: if I can't specifically remember, I can tell you, invariably, I'd have done X or Y.

I'd hoped this would assist you to summarise your own clinical experience, your CV, when you say that starts in relation to young children.

A. Well, into young children, the first experience would have been 1990. The time --

Q. On your own?

A. Well, I was a senior registrar, so I was on my own working with consultant ... Under consultant supervision. When I actually ran the -- whether I was doing the surgery with a consultant present or not, I couldn't tell you. Somewhere in there, but a small

child, unless it was absolutely -- nothing like Adam, no complexity to it, I wouldn't do anything like that until about 1991/92 on my own. Always as a senior registrar in the system, you have immediate access to surgical consultant cover.

Q. So let's be clear. You're saying "on your own" so that you can start to say you were developing your own practice as opposed to providing assistance to your consultant or whatever it is. On your own, you would have been developing your own practice in paediatric renal transplants involving small children from 1991/92, did you say?

A. Well, as I've tried to describe the technique and the difference in this particular case between physiology and anatomy, the way I ran --

Q. I'm so sorry, Mr Keane. I know you're trying to explain and we are -- I am trying to have you explain. It's just that if you can give me an answer to that question.

A. Every single transplant is the same, whether it's an adult or a child. There's only, to a surgeon -- I'm sorry to -- only to a surgeon ... The physiology is more or less the same, except considerations in small children. Then anatomy part of it, the actual, is --

Q. I'm not doubting any of that, Mr Keane. It really is, I thought, a relatively straightforward question. You

talk about having established a practice and way of doing things. I'm simply asking you, in relation to small children, when were you establishing and developing that practice, which I presume would have been when you had charge of that kind of surgery yourself.

A. Um ... Somewhere between -- after 1991, I would think.

Q. Right. We'll go and check. I'm not entirely sure there's a record of you carrying out -- we can check. That was the question.

THE CHAIRMAN: I know you were asked to go over this, but I don't find it terribly helpful or essential to go over it.

MR UBEROI: Sorry, could I ask this: did the witness start to develop his regular practice as a consultant urologist after he was appointed as a consultant urologist in 1994?

A. The point I'm making is: I learned to do this under Professor Gordon Williams at the Hammersmith Hospital and it's just a continuum as I experienced and -- as transplantation develops and your capacity to transplant, you're actually better to meet me as a 6, 7-year transplanter as a child than anybody else because what we do is just a smaller version of what everybody does. Transplantation is different to other surgery.

Nobody has ever -- I would rather have Professor Williams operate on my 5 year-old child than anybody else. He was a genius, surgically.

THE CHAIRMAN: So you learned from him and the lessons you learned from him, you were putting into practice as a senior registrar and as a consultant?

A. That's the point.

THE CHAIRMAN: But more particularly, when you were a consultant and you were in charge rather than when you were a senior registrar and you were working under somebody else's supervision?

A. Yes.

THE CHAIRMAN: Is that right?

A. Yes.

THE CHAIRMAN: Thank you.

MR UBEROI: Sir, if I might have one further question, so I'm clear on this from my point of view.

Would you have transplanted a paediatric case without access to consultant cover before your appointment as a consultant in 1994?

A. No.

MR MILLAR: Mr Chairman, I find it rather unorthodox that my learned friend is essentially taking over the questioning of the witness.

THE CHAIRMAN: I'm rather gathering from this it was

Mr Uberoi who had asked for the clarification.

MR MILLAR: It may be, but I think you got the clarification, sir, on the point which, with respect, you have indicated that you [OVERSPEAKING].

THE CHAIRMAN: I've got it. If I didn't have the point before, I definitely have it now.

MR UBEROI: One final point of clarification -- clarification has been given by the final answer, thank you.

MS ANYADIKE-DANES: Thank you.

Mr Keane, I am trying to find the -- have paginated the correct theatre log, but I can go on and ask you some further final questions and I'm hoping that by the time I've asked you those questions, that pagination will arrive. I'm very sorry to be taking you out of the order of it.

There is an issue in relation to the communications, if I can put it that way, amongst the transplant team. So if one regards an element of the transplant team as the surgeons and the anaesthetists. You can also regard the nephrologists as part of that transplant team. What I would like to suggest to you is that certainly, as between the surgeons and the anaesthetists -- and if I can refine that to you as the consultant transplant surgeon and Dr Taylor as the consultant paediatric

anaesthetist -- the communications do not appear to have been helpful to either of you. Would that be a fair statement?

A. That's a fair statement.

Q. Do you know why?

A. Well, it's a question I have asked myself every single day since 27 November 1995. And I still cannot provide an answer to you to that question, having examined it 6,000 times in my mind, why someone with no -- you see, the transplantation is the thing. I have the experience in transplantation. Why someone who had only seen one procedure before could assume to himself the competence to even think of running a transplant procedure ... It's the procedure you need to know, not how to replace a fluid deficit or have any idea about --

Q. Can I just ask you about that? Are you saying, therefore, that in order to manage, if I can put it that way, the anaesthetic process of a child during a renal transplant procedure that you would have to -- the person doing it would have to have some experience with paediatric transplants as opposed to experience with major surgery?

A. Yes, they must understand the procedure. You must understand, maybe, 28 to 30 times to get -- to understand that now it's different, now the surgeon

controls the CVP. You see, anaesthetics is essentially -- the anaesthetist always runs how the CVP is managed during surgery. This is a completely different situation. Now, it's the surgeon who's running the CVP. I don't understand how anybody could consider themselves competent to make any decision even in his own speciality to assess a deficit problem without a CVP in. Even that alone is -- I have asked myself and I still have not found the answer to that question here today.

Q. You've approached the answer to that question from not having found the communication between, if I can put it that way, Dr Taylor and you terribly helpful. What about the communications between you and Dr Taylor? Since you have reflected on it, do you, with hindsight, think that maybe you could have managed the communications from your side to Dr Taylor better?

A. Well, unless he had problems understanding the message that I was giving him and that I was speaking in terms that he could not understand, I would expect him to have asked me to explain it to him yet again. This is an operation where I need a professor of nephrology, he's there. I'm there. Why not just ask? If you don't know the -- you see, it's not an operation, it's a procedure, a coordinated procedure involving all of the care. And

then you have to coordinate the drugs to go in.
You have to coordinate everything. Everyone needs to know where they are spatially, he needs to know what the child's blood volume is, what his haemoglobin is, what his CVP is. Essentially, he replaces the mother, but he has no part in how I am to conduct this operation.

Q. I understand that, Mr Keane. You have said that.
I wonder if I can just ask you one more question about that communication from your side to Dr Taylor. Would you accept that there are a number of stages, if I can put it that way, during the procedure where you really do need to communicate with him?

A. Yes.

Q. I think if I may summarise them, and correct me if I'm wrong, but I have tried to take them from your evidence. Knife to skin, that seems to be one. Presumably he needs to know you're going to do that so he can be sure that Adam is adequately anaesthetised.

A. Yes.

Q. Blood loss is another issue where you'd need to communicate with him that you think that is happening or it may be about to happen and then he can manage his end, if I can put it that way. Would you agree with that?

A. Yes.

Q. Clamps on and, maybe, clamps off might be a time when you need to communicate with him specifically.
A. Yes.
Q. The anastomosis?
A. Yes.
Q. Then maybe the pulsatile flow and perfusion might be a time. In case it's not perfusing as well as you would like, there may have to be a discussion or you may have to advise him of that. Would that be fair?
A. It is critical he understands where he is and where I am.
Q. And maybe also the closing up what he's going to carry on doing with the lightening of his anaesthetic and so on. Would you accept those are distinct periods in the process of this procedure where you would need to be communicating with him?
A. That is the entire purpose of how a transplant operation is done. It's not whether he's good at putting in lines or waiting around; he must understand that he needs to know where he is in relation to where I am, if you understand it.
Q. Yes.
A. He needs to know when I think I'm going to be doing something. He needs to know when I think I might be in trouble. He needs to know if I anticipate blood loss.

He needs to know, critically, for his point of view, to be ready to have the drugs that would support Adam's blood pressure ready to ensure that he had ... So he needs to know as much of what's going on.

Q. Understood.

A. That is the art of anaesthesia in transplantation.

Q. I understand. If there is poor communication -- I'm not saying on which side -- but just there is poor communication between the members of the transplant team, is that something that has the ability to put the patient at risk?

A. Absolutely.

Q. I think we have the document. It's 306-013-095. I think what took the time is the extent of redaction. So this is theatre 6, which, as I've said, we've been advised is the only one in which that particular procedure could take place. We have sought it for the 27th November and in fact, there appears that there is another page of it, which has nothing on at all; the whole thing is redacted. But you can see that somewhere, about two-thirds of the way down, the only bit that one can see is actually your name and that is the procedure there:

"Transurethral resection of prostate."

That doesn't appear to be the procedure that you

described.

A. Mr Chairman, can I address you? I understand that the inquiry has spent resource and time on this issue, but yet again another instance of how mind was working. My legal team asked me to specifically check this issue before I would make my statement and I did, but the books were -- the police had them. So I couldn't get them.

So I remembered the call about the kidney and purely associated that the only reason that I could be going to the City Hospital to embolise a kidney must be that somebody was in theatre 6, bleeding from a percutaneous -- and this whole issue is incorrect. I made incorrect statements to the inquiry, but I wish to apologise and assure you I have not been attempting to obstruct or impede your --

THE CHAIRMAN: What is the correct position?

A. The correct position is that I couldn't remember. I was remembering from the police enquiry of 10 years earlier. I knew I had gone to operate on something and there I am doing a major operation, a major urological operation instead of the thing I thought I was doing.

THE CHAIRMAN: Okay. So that is what you were doing?

A. It's just that I do apologise for the way I have remembered.

THE CHAIRMAN: Just below your name, there's the name of a second surgeon, which has been redacted.
A. I would be the senior surgeon at the case.
THE CHAIRMAN: Was it the other surgeon, or was there somebody conveying a message from the other surgeon who brought you over to do that?
A. I considered that. I don't have a direct memory of somebody ringing me about a TURP. The memory is of talking about embolising a kidney, therefore the association is it must be the only reason I could be doing -- receiving a phone call like that is ... And unfortunately, I answered that question. I hope I can beg your indulgence to understand how my inaccurate mind was working. All of that is incorrect and I apologise to you for it.
THE CHAIRMAN: But the procedure which is noted on that record is the one which you went over to do?
A. Oh yes, I'm there. In time, yes.
THE CHAIRMAN: Were you due to be there in the first place? The impression we have, which is maybe where the problem arises from, is that you were called back to something, you were called to the City to do something which you were not scheduled to be involved in because a particular problem had arisen, whereas an interpretation of this entry is that this is a procedure

which you were scheduled to be involved in.

A. Oh --

THE CHAIRMAN: Do you see what I mean?

A. I do. Let me explain. I had an operating list on and as I had an intention to treat Adam starting somewhere in the region of -- you make these calculations as a surgeon. If I have Adam asleep anywhere near 6.30, I personally will be back --

THE CHAIRMAN: At a particular time?

A. Making the assumption that the list -- my phone ... I probably would have re-arranged the order of the list so that the appropriate cases were early and then they can wait for me if I'm delayed.

THE CHAIRMAN: Okay, thank you.

A. I do apologise for the waste of your time.

THE CHAIRMAN: Don't worry.

MS ANYADIKE-DANES: Following on from the record that you said you were making, who has the responsibility to record the details of the operation?

A. That would be filled in by either the theatre sister or --

Q. Sorry, sorry, I think we are talking at cross-purposes. I was referring to the note you made in the notes. You made a note of the actual surgical procedure, if I can put it that way.

MR MILLAR: I think the witness doesn't appreciate that my learned friend's back to Adam. Adam's notes.
MS ANYADIKE-DANES: I'm so sorry. We're back to Adam. I beg your pardon. Sorry. I was pressing on. You described what you had done, so you made a note?
A. Yes.
Q. And what I'm asking you is: who has the responsibility to record the details of the operation?
A. The operating surgeon.
Q. You --
A. Yes.
Q. -- in other words. So if there is any inadequacy in that, that's your responsibility?
A. I -- yes. I was using abbreviations.
Q. No, no, that's all right. Then just before we move on from there and deal with going to PICU, or paediatric intensive care, did you know that Adam's mother had sought a second opinion in relation to Mr Brown's care of her son at a particular point?
A. No.
Q. Did you know that she didn't want Mr Brown to have any further involvement in his care?
A. No.
Q. If you had known that, what would have been your view? What would you have done?

A. I'd have done the operation with my senior registrar.
Q. Thank you. Then you said that you very much regretted the fact that you had not gone to speak to Adam's mother after you learned of his condition following the surgery. And I think you said that you had actually gone to look at the notes, saw that she was -- the following day, saw that she was involved in matters of donation and didn't think it was appropriate for you to approach her; is that right?
A. Well, a transplant surgeon probably -- yes. That's right.
Q. You have also, though, said that it's your practice to see the parent after surgery and that you would have expected, in your absence, because you couldn't do it then as you were going off to your emergency, Mr Brown to have done so.
A. Well, as I left, I thought we were in with a very good chance that this kidney may or may not start away, but some time in the next week or two it would be going and that we were having a kind of a ... We were going to meet some time and have a cup of tea and a celebration about the whole thing.
Q. Sorry, no, that's not what I'm asking you. You had said that you had thought that in your absence, your inability to speak to Adam's mother, that you expected

Mr Brown to. I can give you the reference for that. 006/2, page 7.

A. Yes, I understand the point. The answer is yes.

Q. What you say:

"In my absence I expected Mr Brown to speak to Adam's family."

On what basis did you expect that?

A. Just to say: hello, the chap's gone back to the City and he'll be back as soon as he can to talk to you. Or that someone will talk to you.

Q. I see. So you actually did expect to speak to her, just not then obviously because you've got your emergency, and if I understand you rightly, you expected Mr Brown to convey something of that and then you would come back and speak to her?

A. Well, say something like -- yes, he could have said something and communicated that I had gone somewhere and I would return fairly soon.

Q. But in fact, you didn't speak to her at all even though --

A. Well, you know the images of sitting in a chair [sic]. By the time I rang back to see what was happening to Adam, I think he was on his way -- that must have been in and around the time he was going to the CAT scanner. The problem was I had a list on in the afternoon of

cystoscopies where we make important decisions about cancer, et cetera. I have to do that. I had more work to do that evening and, by the time I finished that night, I just wasn't in a position myself that I could go over. So I just left it until the morning to go and speak to her. But then I found that she was ... What can you say about donation? I mean, I didn't expect her to be in the middle of --

Q. I understand that. Can I just clarify because I hadn't heard that evidence from you before, that you had thought about going back to see her after you'd dealt with your emergency at the Belfast City hospital, but then you had an afternoon worth of cystoscopies and some other work to do, so you didn't. At that time, had you been informed of Adam's condition?

A. I was tracking him by phone. I don't know to whom, but you know: what's happening? CT shows gross cerebral oedema and ... You know ...

Q. Sorry.

A. I knew what was happening by phone.

Q. Yes. I'm trying to be pointed because I can see time marching on. At the time you made the decision "I will deal with my list to do with cystoscopies and also the other work", you were aware of the fact that Adam was in a very serious condition?

A. Well, yes.
Q. Thank you. I think I have just one further question to ask you. Could we pull up 060-010-017? There we are. This is a letter that's written to you, 1997, by Dr Murnaghan. Do you recognise this letter?
A. I do.
Q. So the second paragraph is actually where he's talking about the fact that matters have resolved. He says:
"It would have been unwise for the trust to engage in litigation in a public forum and given the tragic circumstances of the death."
This is, of course, all to do with Adam:
"It would not have been helpful for an opportunity to be provided to lawyers to explore any differences of opinion which might exist between various professional witnesses who would have been called to give evidence."
What is Dr Murnaghan talking about so far as you're concerned?
Let me put that a little more succinctly. When he refers to:
"... not being helpful for an opportunity to be provided to lawyers to explore any differences of opinion which might exist between various professional witnesses."
Firstly, were there differences of opinion between

those who would have been likely to be called --

THE CHAIRMAN: Between you, Dr Taylor and Professor Savage.

A. There may have been a difference of opinion between myself and Dr Taylor.

MS ANYADIKE-DANES: Were there any differences between you and Dr Savage.

A. No, he fully understood what his role in the procedure was and he helped me. I wouldn't have done the procedure without Professor Savage.

THE CHAIRMAN: Sorry, when you say there may have been a difference of opinion between you Dr Taylor, are you saying that there was a difference of opinion between you and Dr Taylor?

A. Were I to appear in somewhere that I could speak about this, there would be. But I didn't ... You know --

THE CHAIRMAN: But by then, you had spoken.

A. No. I never spoke to Dr Taylor.

THE CHAIRMAN: By then you had spoken in a place where there was the opportunity for differences of opinion to emerge, namely the inquest.

A. Yes, but --

THE CHAIRMAN: So at the time when this letter is written -- Adam dies in November 1995, the inquest is in spring 1996 -- you give evidence and Dr Taylor gives evidence.

A. Yes.

THE CHAIRMAN: Isn't that right?
A. Yes. But I --
THE CHAIRMAN: When did you know that Dr Taylor did not accept the finding of the inquest?
A. Until you sent me the papers. I read it in the correspondence.
THE CHAIRMAN: Did you ever sit down with Dr Taylor afterwards and say: look, where on earth did this all go wrong?
A. I would have thought that the verdict of the inquest would have perhaps offered an opportunity for other people to talk to him.
THE CHAIRMAN: Between the death, Adam's death, and the inquest, there's a period of about 6 or 7 months. Do you need to wait for an inquest to have some investigation about what went wrong or some discussion about what went wrong?
A. Well, at the time -- this is pre-Bristol, you know, pre the definition of how these issues should be handled properly. I couldn't have said that I knew exactly myself how to handle this issue. I relied entirely on a, if you like, forensic or extensive investigation to be carried out because nothing ...
THE CHAIRMAN: By who?
A. By an expert from England.

THE CHAIRMAN: That was in terms of the inquest. But why on earth don't you sit down with the people who were involved and say, "This was just a complete disaster. We don't need to wait for an inquest in six months. How do we make sure this doesn't happen again?"

A. I worked in a different hospital, I communicated my views to Professor Savage.

THE CHAIRMAN: What were your views?

A. The views that have subsequently proven to be incorrect, that I would never come over again. I think what I was trying to express was this has been something that has so upset me that I'm going to have to, at least, at some stage shortly stop this.

THE CHAIRMAN: Mr Keane, let me be quite blunt so you understand my concern: you provided a statement to the coroner, which could not have given less detail. On your evidence today, and all the information which we have, there does not appear to have been any determined effort within the Royal and involving you, for this purpose -- because you were the surgeon involved -- to discuss what went wrong, attribute blame -- if that's the right thing to do -- or, at the very least, make sure that the next child who came in for a paediatric renal transplant didn't suffer the same disaster as happened to Adam. Why not?

A. Well, I worked in a different trust.
THE CHAIRMAN: Yes, I know you did, across the road, I think. 0.8 of a mile it's been described as.
A. With a different management system. I had concerns. I had expressed them. I had expected a completely different reaction to the one which I experienced. There didn't appear to be a, if you like, a very immediate or extensive investigation into what had happened. I had come from a system where this would be ... And at that time --
THE CHAIRMAN: You came from a system where this would be what?
A. Different.
THE CHAIRMAN: In the sense that there would be an immediate and extensive investigation?
A. Well, maybe the next day or within 48 or 72 hours.
THE CHAIRMAN: You must have known then because you weren't involved in an immediate extensive investigation that there wasn't one.
A. I knew there wasn't one. So now I'm in the system where surely somebody is going to ask the surgeon what his opinion was and I was never asked for my opinion.
THE CHAIRMAN: Right. So you were never asked. But you waited to be reactive rather than being proactive despite the fact that you think about Adam every day?

A. Well, the point of ... I was trying in the letter to point out clearly that the surgeon involved in this circumstance is now writing a letter, saying: as far as he was concerned, there was no particular issue surgically involved. And I had to wait in a time period where I did not know what to do properly in this situation I was in for a, if you like, a statutory system to say what the cause of death was. That was my feeling. I know that I would treat this differently now, but unfortunately I can only say what events ...

If you look, the problem is, if you look at the cause of death of Adam Strain that's been debated by experts, it's possible, just possible, that Adam would have survived the hyponatraemia had I known what was going on at ... So that didn't ...

THE CHAIRMAN: Is that a reference to Professor Kirkham's view?

A. Yes.

THE CHAIRMAN: Until Professor Kirkham produced a report within the last couple of months from at least the time of the coroner's inquest in spring 1996 until March 2012, you've only had one view about the cause of Adam's death?

A. I had one certain view of it, yes.

THE CHAIRMAN: Okay. You see, frankly, Mr Keane, I'm not so

much worried about protocols and Bristol and so on. What concerns me is that you don't have to have a protocol to work out or discuss how things went wrong or why a child died, sure you don't. People like you and Dr Taylor and Professor Savage and anybody else can sit round and discuss it and make sure it never happens again.

A. Yes, the situation I found myself in was that ... What worried me in the lack of communication that I was -- the reason I wasn't being asked formally in a formal investigative process was that I worked in another hospital and that nobody would allow me to give an opinion but that my opinion, essentially, was mirrored in the coroner's verdict, formally, to assist him, which I simply did not know how to ... Um ... That I felt should have ... The system should have reacted.

THE CHAIRMAN: What would you say to any suggestion that your statement to the coroner suggests that you withdrew into a medico-legal bunker from which you adopt a position: it wasn't my fault. That's why you said in your statement to the coroner that the procedure was successful.

A. The message is clear. My purpose in doing it was to send a clear and unequivocal message across, whether you believed it or not, whoever was reading this, the

surgeon in charge of a child died felt there was no issue from his point of view.

THE CHAIRMAN: Could you have given a colder statement to the coroner?

A. I can't imagine how I could. I can't imagine how I could have been saying to whoever's investigating -- there must now be someone investigating this you would imagine: I'd better go and ask the surgeon why he thinks he has nothing to do with it or, if he's right, what happened? That's the point of the letter and its terseness.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I'm so sorry, Mr Keane, but while you were discussing that another issue arose. It's a matter of clarification; it's not a further point, it's just clarification. When the chairman was taking you through that heavily redacted theatre log, the question is: did you have an arranged list?

A. I did.

Q. Yes. If you had an arranged list, why did you leave Mr Brown to close?

A. My recollection is, as I've stated and corrected, that I don't want to say that I was called -- a TURP is a very major operation in surgery. It's very dangerous and that's how I would have experience of hyponatraemia

and the physiology of this because you can leak essentially free water into your bloodstream --

Q. Lets me come at it in other way. You had a prearranged list, so you knew what the surgical procedures would be for that day.

A. Yes.

Q. And did you have an assistant surgeon?

A. I had a junior surgeon, yes.

Q. What does that mean? A senior registrar?

A. A senior registrar.

Q. Thank you. So when you agreed to perform the renal transplant operation on Adam, finally agreed to do that, who was going to carry out your list or were you going to cancel your list?

A. I would have re-arranged the list as soon as I knew that -- obviously I knew, I would have re-arranged so that cases appropriate to my estimation of his level of ... Would proceed knowing that he had access to the emergency consultant on call. That's the arrangement if something is on.

You would have to try and time. I set for 6 o'clock in expectation I'm going to come back in at about 9ish. Hard to know because you just don't know. That's how it's done ...

Q. Sorry, let me be a little more direct. Does that mean

that you were going to have your senior registrar carry out your list while you were engaged in the transplant surgery on Adam?

A. Yes.

Q. Right. And is that the senior registrar that you would have asked to assist you with Adam, had it not been for the fact that Mr Brown had been made available to you?

A. Not necessarily.

Q. Right. So what I think I'm being asked to explore with you is: that surgery having commenced, is that the case, with your senior registrar?

A. The --

Q. Yes, the one that was in your list. Are you saying that surgery had commenced with your senior registrar?

A. It's possible, but I don't know. Yes, possible. I don't know whether it had, you see. I don't have a memory of being called.

Q. You had a memory that there was an emergency.

A. I have a specific memory about being called about -- talking about a specific procedure, which I --

Q. Forget the actual specific procedure for the moment because that seems to have caused a little bit of confusion. I think what doesn't appear so far to be confused is you received some sort of communication that required you, as a matter of emergency, to get yourself

to the Belfast City Hospital; is that right?

A. Yes.

Q. Is it that the procedure that you had left your senior registrar to carry out that required you to do that?

A. That's the point: I don't have a memory that it was that specific procedure; I only remember the request was about embolising a kidney.

Q. All right then. Does that mean that there is some confusion, for example, as to whether it was an emergency or some confusion as to whether the patient was bleeding out?

A. I understand. You see, I would associate that having found myself receiving Adam's phone call, sitting in theatre 6, that I had gone to the theatre 6, but it could have been somebody in the ward who had had the procedure the week before and it started to bleed again or a trauma case that needed -- was bleeding from a kidney and we needed to embolise it, to give you two possible examples.

Unfortunately, my recollection was of the embolisation, which led me incorrectly to then make the association that the only reason that any memory I have is sitting at the desk in theatre 6. What could I have gone there for? It could only have been ...

Q. That wasn't actually quite what I was asking. I was

asking about the emergency and bleeding. There's one further point and then I think I've asked all the questions. That is: if it were an emergency and bleeding, do you really take time to make your theatre note then or do you not do that after you've addressed the emergency and bleeding?

A. Well, you know, if you -- when I say "bleeding", there are a number of ... What I remember -- well, let me put it this way: there are a number of things you'd do in that situation that don't require instant ... You would put a balloon down the tract to tamponade it. The point of the conversation that I was remembering -- alerting or talking about the possible need to embolise a kidney. So therefore, once the situation had been tamponaded -- like putting a pack your up nose, for instance -- and packing it, we would then stabilise the patient, bring him round to angiography to embolise the kidney. So I didn't mean that I had to go to a specific theatre; the issue was I wrongly associated the memory with what I thought was the likely diagnosis.

Q. Sorry, Mr Keane. I'm not really asking about the procedure. It really doesn't matter. The only reason the procedure mattered at all is because it seemed that a particular procedure you mentioned, nobody could find it in the theatre log. I'm not particularly concerned

about the procedure.

The point is: your evidence has always been in your witness statements that it was an emergency. In fact, leaving aside the particular procedure, you talked about the patient bleeding and that's why you had to get yourself off to the Belfast City Hospital. And that is why you left Adam, effectively, to have his wound closed by Mr Brown. So all I am asking you -- at least this is what I'm being put to ask you is: if that is the case, that doesn't seem to fit with taking your time to make two notes -- one more concise than the other, admittedly -- but making two notes in his medical notes and records before you attend the emergency. That is the point that seems to have given rise to a degree of confusion.

A. Okay. I think I can clarify it. If you have a senior registrar and he has access to an emergency consultant, I would have allowed him, provided I felt he was of appropriate experience, to start a TURP. But that I would be very, very keen, because of the issues involved in prostate surgery, to attend that situation very, very quickly or he may have rung me. I don't have the memory that he rang me to say something was wrong, but he could have. I don't have that memory or that he had started and I now needed to get there as soon as

possible to make sure that the patient he had started was safe. Because I felt the issues of Adam's transplant were ...

MS ANYADIKE-DANES: Thank you. Thank you very much.

THE CHAIRMAN: Okay, Mr McBrien, Mr Hunter?

Questions for MR HUNTER

MR HUNTER: Just one matter, sir, if I may, and I will be brief.

Mr Keane, you've mentioned again this afternoon the significance of the CVP readings to you as a surgeon. At certain stages of the procedure, it's crucial for you to know what the CVP is and if it's okay; is that a fair comment?

A. At all times.

Q. Yes. We have heard how you have asked Dr Taylor -- I think even this afternoon -- it was brought out on 10 or even 20 occasions about the CVP.

A. He could give me a continuous talk on the CVP. Nothing else. That's all I want to hear.

Q. Yes. At certain stages of the procedure, the actual figure that the CVP is -- whether it's, say, 10, 15, 20 -- would be of more significance for you to know than Dr Taylor to know?

A. Yes.

Q. Especially at anastomosis?

A. Yes. I know the procedure; he doesn't.
Q. You will need to know a figure; would that be correct?
A. I need to know I'm in range.
Q. Yes, you need a figure.
A. Yes.
Q. Obviously, you ask Dr Taylor what the figure was?
A. It was my invariable practice to ask an anaesthetist, yes.
Q. And you've said that if you had been alarmed or if you'd known there was a problem with the CVP, you would have stopped the procedure, you would have taken action.
A. There has to be an immediate stop to -- what's wrong. Because the procedure is now -- if you look at it like a record, it's like hitting stop. Let's have a look.
Q. Yes. So you've said that the CVP's critical to you, you've said that you are getting actual figures from Dr Taylor.
A. Well, it's either figures or, "Yes, I'm fine".
Q. Well --
A. I can't have specific recall of, you know, 6, 7, 8, 9, 10.
Q. Can I put it to you this way: what might be fine for Dr Taylor might not be fine for you because it's crucial for you to know what the CVP is at anastomosis.
A. Yes. That's the point. As you come closer, it becomes

more defined. Earlier in the procedure, I don't mind if I hear "yes" from somebody who says he knows. But he needs to know. You see, as I explained --

Q. Sorry, can I just take you to the point? You need to know the figure.

A. If he wants to convey it to me that way, I need to know he's fine, but at special parts of operation I need to know the figure.

Q. You need to know the figure. May we take it that you asked Dr Taylor what the figure was?

A. You may take that.

Q. Can you maybe tell us what the figure was that he gave you?

A. No, I'm working differently. I'm working to a --

Q. Okay, I'm sorry, can I again just stop you there. I'm just trying to be brief so we can move matters on. You said you have asked him for a figure. You have said that he gave you a figure.

A. Yes.

Q. So obviously, the figure he gave you did not give you any cause for concern.

A. Yes.

Q. Okay. Then can I ask you what figure you would be concerned at?

A. Anything over 12.

Q. Can I assume from that then that the figure he must have given you must have been under 12?

A. Yes.

MR HUNTER: Thank you. No further questions, sir.

THE CHAIRMAN: Mr McAlinden?

MR MCALINDEN: No.

THE CHAIRMAN: Any of the other individual counsel?

Mr Fortune?

MR FORTUNE: No, thank you, sir.

THE CHAIRMAN: Mr Uberoi?

Questions from MR UBEROI

MR UBEROI: Yes, just one matter, if I may.

Just in response to that. In your witness statement to the inquiry, Mr Keane, this is your third witness statement. Sir, it's 006/3, page 17, please.

THE CHAIRMAN: 33(b).

MR UBEROI: Yes. You're asked in terms:

"State whether at any time during surgery you asked the anaesthetist what the CVP was and, if so, state what the response was thereto. If you have no specification recollection, state what was your customary practice and the reasons why."

As you'll see you have answered there:

"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."

You have very fairly accepted in earlier parts of your evidence that you can't in fact remember large parts of the procedure. Is it not the position that your customary practice was to ask if the CVP is up rather than to ask for a specific number?

A. Well, what I'm asking him -- I have defined how to do -- how he is to do the CVP management for me. He clearly understands the range. I have explained to him the philosophy of gently expanding the child's -- gently, slowly, as we predict this is going to take two hours, do it over two hours.

Q. Your evidence is that that's your recollection of what your normal practice would have been?

A. That's what my normal practice would have been. So the critical issue then is, if you're operating with an anaesthetist who doesn't have your intrinsic knowledge of how the procedure works, I listen to how the CVP is coming up so that I know ... I'm now gauging everything as I operate, at what speed I operate, as to when I'm going to start the anastomosis. Now, for me, doing the procedure, I would then turn to him and say, "Are you with me? Are you in range? Because in about 20/30 minutes time, these clamps are coming off".

Q. If I could just interrupt. Again, you have moved into: I would do this, I would do that; all I'm asking you is what you precisely recall.
A. I'm trying to describe that I'm listening to a continuous flow of information -- and that I am judging where I am.
Q. So you don't recall what you were, in fact, told?
A. I'm listening -- I can't --
THE CHAIRMAN: Sorry, Mr Keane, there's two different -- you have given two slightly different explanations for what you would have done. One is the general one, which is, in terms: I would have checked with him or asked him that the CVP was okay and he says yes. And you're reassured the CVP is okay so you can continue with your work. That's one position.

The other position, which you just said to Mr Hunter, is that you seem to be saying you were specifically told that the CVP was at a number less than 12 and what Mr Uberoi's asking about is when you were asked in writing about what you asked the anaesthetist about and what the response was. You didn't say what you have just told Mr Hunter, "I was told it was 10 or 11 or told a specific number"; you responded by reference to your customary practice.
A. Yes.

THE CHAIRMAN: The difference is this: it's one thing for Dr Taylor to say to you, "It's okay, it's okay", because he thinks it's okay. It's a slightly different matter for you to be saying to me that Dr Taylor told you it was 9 or 10 or 11 or was putting a specific number on it.

A. My purpose in trying to describe to you and let you have some idea of what I'm doing is this a crescendo to the clamps off. The operation proceeds to clamps off. I don't mind, as I hear what's happening, how specific it is, but there are specific moments that I ask for the number. As I approach the time when I'm going to take the kidney out for obvious reasons, I'm now going to ask him: are you with me in range? When I start to do the anastomosis, he now knows how close I am, anticipating I'm going to be in 20 minutes' time and if he's behind -- if he doesn't know what I'm doing, you see ... If he doesn't know, as I then tell him: you're too far behind me, give more fluid, gently. Bring him up gently to the crisis point when the clamps come off. To me, it's like conducting an orchestra, telling this fellow: keep with me, tell me what's happening. But as you rise to the crescendo of the operation, I need him exactly with me. I don't care if he's a little bit behind, a little bit in front. He needs to understand

exactly when I'm doing and, at those crescendo times, it's all numbers.

MR UBEROI: Getting back to the point, I understand your evidence about crescendo and about it being an orchestra, but you don't, in fact, recall what you asked and what you were told, do you?

A. I don't remember the replies in numerals. I just try to describe how it's done.

MR UBEROI: Thank you very much.

A. Thank you.

MR HUNTER: Just to come back to that, and again I will be very brief. Can I ask him one more question?

THE CHAIRMAN: What is the question?

MR HUNTER: I want to ask him if he had worked with Dr Taylor previous to this. The reason I ask it is because he said he's assuming the anaesthetist knows it's within range. Therefore, if he has not worked with Dr Taylor before, how is Dr Taylor to know what range is acceptable to him?

THE CHAIRMAN: Because on his evidence, he, at the start of the operation, he has a discussion with the anaesthetist in which he goes through all this. And that's my understanding of Mr Keane's evidence already. That's how Dr Taylor should know the range because whether they've worked together or not, he has specifically said

that he takes time at the start of the operation with the anaesthetist to go through this -- perhaps with Dr Montague if he's there listening in and learning. Thank you.

Questions from MS WOODS

MS WOODS: Sir, one issue very briefly.

Mr Keane, I'm hoping you can give me a very simple yes or no answer to this question. Did you leave the theatre at the Royal for an emergency?

A. As I recalled in a police statement 10 years later, that was my recall that I left as a matter of urgency, that somebody had talked to me about the need to embolise a kidney. And that's all I can -- and then, as I hope you know, my mind doesn't actually work exactly like it should in terms of this inquiry, when it's asking for specific information and I apologise for the inconvenience I've caused you.

MS WOODS: Mr Chairman, I won't take it any further.

THE CHAIRMAN: Mr Millar?

Questions from MR MILLAR

MR MILLAR: Very briefly, sir, I hope.

Mr Keane, you described in your evidence how, in Adam's case, you had inserted a suprapubic catheter --

A. Yes.

Q. -- and not a urethral catheter. Was it your plan to

insert a suprapubic catheter?
A. That was the whole point. Adam's urethra, to a consultant urologist, was never capable of accommodating a catheter fit for the task at hand.
Q. What was that task?
A. To do a transplant procedure.
Q. Was it your practice to use a suprapubic catheter rather than a urethral catheter?
A. Invariably.
Q. Secondly, if the witness's deposition to the coroner would be brought up briefly. 011-014-093. Just before coming to that, you were being asked -- and I think being asked by the chairman in very clearly terms -- about what you did after Adam's death and I think part of your evidence was, when you realised what had happened, you went over to the Children's Hospital the next day. You were looking for Adam's mother and you described the difficulty with that. You then went and read the notes and you then went to see Dr Savage in his office; isn't that right?
A. Yes.
Q. And again, if I can lead you on this -- because it was your evidence -- you looked at the notes, you saw the amount of fluid, you took a view about that, you went and spoke to Dr Savage and you communicated your view

about that; isn't that right?
A. That's correct.
Q. Had you any sense that Dr Savage didn't share your view of the fluid?
A. No, absolutely -- no.
Q. Moving on then to the stage of the coroner's inquest, and if you look at this document, and again the chairman will be familiar with the format of these documents. The typed section is obviously based on the letter that we've looked at early; isn't that right?
A. Yes.
Q. And then again, the chairman will know that the first bit of handwriting before it reads "Miss Higgins" -- she was the junior counsel, as she was then -- representing the Strain family; isn't that right?
THE CHAIRMAN: Yes.
MR MILLAR: She was the family representative. But the little bit at the beginning -- I think the chairman will know that reflects you answering questions asked by the coroner. Were you asked some questions by the coroner?
A. Yes.
Q. Then were you asked some questions by Miss Higgins?
A. Yes.
Q. Does the remainder of it, the handwriting, reflect what

you answered to her?
A. Well, yes.
Q. At the inquest, was it the case that the coroner had available to him the report of Dr Sumner?
A. Yes.
Q. And to your knowledge, was that report also available to the family and the family's legal representatives?
A. I assume so.
Q. During the course of the inquest then, Mr Keane, did either the coroner, armed with Dr Sumner's report, or the family with the benefit of that report, pursue with you your opinion of why Adam had died or the intricacies of the fluid management issues?
A. No. That was the -- that's why -- no.
MR MILLAR: Thank you.
THE CHAIRMAN: Okay, thank you. Mr Keane, you've been giving evidence for a long time. I'm grateful for that and I'm grateful for your accommodation. Before you leave the witness box, you don't have to say anything more, but is there anything you want to add beyond what you have said already?
A. If there are any members of Debra Slavin's family here now, I'd like to repeat my apology to her for not comforting her in her hour of need. It was not intentional and I apologise to her.

THE CHAIRMAN: Thank you very much indeed. Would you like to step back?

(The witness withdrew)

THE CHAIRMAN: I'm afraid there's no point whatsoever in starting Mr Brown. We would have to take a break shortly for the stenographer. I really don't see any point in starting Mr Brown at 3.45 or thereabouts, taking him for an hour, hour and a half, and then breaking until some day when I'm not quite sure in the future. We will have to liaise with you and Mr Brown about when his evidence can be taken, I'm afraid. I'm very sorry for that. He's been waiting patiently for a number of days, I know that. I'm very disappointed we haven't made more progress.

MS WOODS: Mr Chairman, I know you said yesterday that you would sit as late as need be. I'm wondering -- and I'm throwing the question out there and looking at my learned friends -- whether there actually is any realistic possibility of dealing with Mr Brown today. Because that would obviously be best for everyone.

THE CHAIRMAN: We can't sit for a number of reasons beyond 5.30. The stenographer needs a 10 or 15-minute break now. His evidence could not be done in under two hours.

MS WOODS: I'm looking at Miss Comerton who's just walked in the room.

THE CHAIRMAN: It will be our job now to accommodate you and Mr Brown now as best we can because you have been waiting for so long. I presume that you don't -- I would start Mr Brown if that would help, but the reality is I don't think we would finish him today. It's a matter for you as to whether you're content for Mr Brown to start to give evidence and resume at some undetermined --

MS WOODS: No, sir, we wouldn't be happy with that. I can be clear on that.

THE CHAIRMAN: Thank you very much. I'm sorry about that.

Ladies and gentlemen, this only emphasises the issues that we flagged up at the end of yesterday afternoon's hearing about timetabling. We will now finish for today. I have told you who tomorrow's witnesses are. The inquiry team now will convene to review again the witness schedule and our timetable going forward. In the meantime -- Mr Fortune?

MR FORTUNE: Sir, I'm going to come back to this question of housekeeping. It is a very serious matter and although counsel is saying "I shall only be so long", there are serious questions being raised about these estimates.

You have given us an indication as to the witnesses to be called tomorrow. Realistically, how many are we going to get through?

THE CHAIRMAN: We're going to get through all three of them, I'm telling you now. We've got two nursing witnesses tomorrow and a transplant coordinator. We will get through all three of those witnesses tomorrow. I am telling you now, I will make sure we get through all three of those witnesses tomorrow.

MR FORTUNE: What time are we going to start tomorrow?

THE CHAIRMAN: We're going to start at 9.30 tomorrow. Thank you very much.

(3.30 pm)

(The hearing adjourned until 9.30 am the following day)

I N D E X