Thursday, 17 May 2012

(10.00 am)

(Delay in proceedings)

(10.13 am)

THE CHAIRMAN: Good morning.

DR ROSALIE CAMPBELL (called) (via video link)

Questions from MS COMERTON

THE CHAIRMAN: Can you see us, Dr Campbell?

A. Yes, I can see you.

THE CHAIRMAN: I'm sorry we kept you waiting for a few minutes. Ms Comerton, counsel to the inquiry, will now ask you a number of questions. Are you ready for this?

A. Yes.

THE CHAIRMAN: Good, thank you.

MS COMERTON: Good morning. I would like first to confirm your witness statements that have been served on the inquiry. The first inquiry witness statement of yours was dated 7 April 2011.

A. That's right.

Q. The second inquiry witness statement was dated 8 October 2011.

A. Yes.

Q. You have also submitted a document, reference number 301-133-002, which is a table.

A. Yes.

Q. Yes, you recall that, thank you.

If I ask you first about your role and experience, you have kindly submitted a CV and I might deal with that first. Currently, Dr Campbell, you are a consultant paediatric anaesthetist and paediatric intensivist at Addenbrooke's Foundation Trust Hospital in Cambridge; is that right?

A. That's correct.

Q. When were you first appointed to that post?

A. 2000, October 2000.

Q. Thank you. You're also currently the clinical director of paediatric intensive care at Addenbrooke's Hospital also.

A. Yes.

Q. When were you first appointed to that position?

A. Last year. I think it was September.

Q. September 2011?

A. Yes.

Q. You qualified in July 1987; is that right?

A. Yes.

Q. And then you became a fellow of the Royal College of Anaesthetists in London in March 1993.

A. Yes.

Q. You also became a fellow of the Faculty of Intensive Care Medicine in October 2011.

A. Yes.
Q. Your training in anaesthetics began back in 1988 as an SHO; is that right?
A. Yes.
Q. And you have set out on the second page of your CV, at 306-036-002, your employment history.
A. Yes.
Q. Do you have your CV in front of you?
A. I do, actually, yes.
Q. Good. It's the second page of it that we're referring to. On 27 November 1995, you were a locum consultant anaesthetist at the Children's Hospital in Belfast; isn't that correct?
A. That's true.
Q. And you had begun that post in August 1995.
A. Yes.
Q. And it was a five-month post; isn't this right? It was short-term.
A. Yes. Between posts.
Q. Do you recall at that time was there also a second locum consultant anaesthetist called Dr Rao, who was working in the Children's Hospital?
A. I can't recall.
Q. It has been suggested in evidence that around that time in the Children's Hospital there had been a shortage of

consultant anaesthetists because some staff had left, a consultant had retired and so two locums were working in the Children's Hospital around November 1995. Do you have any recollection of that?

A. I believe I remember seeing an advert for a locum post, but I can't remember another person.

Q. The other feature that I'd like to ask you about is you had also worked as a locum consultant anaesthetist in December 1997 and January 1998 and in August 2000 and September 2000 at the Royal Manchester Children's Hospital.

A. Yes.

Q. Dr Montague, who was also involved in Adam's transplant surgery in November 1995, was a consultant anaesthetist in the Manchester Children's Hospital over those periods.

A. Yes.

Q. Did you work with him there in the Children's Hospital, Manchester?

A. Our paths have crossed many times. Yes, I did.

Q. Thank you. Is there any part of your CV that you would like to refer to or highlight?

A. No.

Q. Thank you. I would now like to refer to the theatre log for 27 November. It's reference WS-181/1, page 9. So

this, Dr Campbell, would be the first page of the theatre log with the five procedures for the morning, for Monday morning, at the bottom of the page.

A. Yes, I have a copy of that.

Q. So the theatre log shows that the operating list on that Monday morning began at about ten past 9 and it finished at 12.50; isn't that correct?

A. That's correct.

Q. And you are recorded as the consultant anaesthetist in the theatre that morning.

A. Yes.

Q. The second half of the theatre log, if we go to it for a moment, WS-181/1, page 8, is the second half of the listing for the 27th.

A. That's the afternoon.

Q. For the afternoon.

A. Yes, I have that.

Q. So you are recorded as being the anaesthetist in two procedures running from 2 o'clock in the afternoon until 17.45.

A. Yes.

Q. Did you remain in the same theatre in the afternoon as the theatre in which you were working in the morning?

A. I don't recall.

Q. You'll also see from the afternoon list that Mr McKaigue

is recorded as being the anaesthetist for procedures between 2.15 in the afternoon and 5.10.

A. Yes, I see Dr McKaigue.

Q. Yes. Do you know which theatre he was in when he was conducting those procedures?

A. No, I'm sorry, I don't.

Q. Okay. Do you know whether he was assisted by a trainee anaesthetist during that afternoon list?

A. Sorry, I don't.

Q. And do you know, for those kind of procedures, whether, if he was assisted, it would likely have been a registrar, a senior registrar or an SHO, given the type of procedures?

A. I think Dr McKaigue would have been more than capable on his own. I don't think he needed any assistance.

Q. Is it possible that he didn't have any assistant then, is that what you're saying?

A. Yes.

Q. Thank you. If we go to your witness statement, 117/2, page 3. It's question 1(ii), it's the top part of the page, Dr Campbell.

A. Yes.

Q. And it's the last sentence of your answer where you say:

"It is likely that Dr Hill was assigned to work with me on the morning list and Dr McBrien was assigned to me

for the afternoon list."

A. Yes.

Q. Is that your recollection or is that your best guess at what was happening?

A. I found their names on the charts which were made available to me by the trust. So I have a copy of the anaesthetic charts that I worked on that morning and that afternoon and their names are also there.

Q. Do you recall in which theatre you were working in the morning?

A. Sorry, I don't.

Q. On 27 November 1995, do you recall at what time you started work that morning?

A. I have no direct recollection, but aiming for a list start time of 9, I would expect to be in the hospital between 8 and 8.30, seeing the morning patients.

Q. You have said that you have no direct recollection. I should perhaps ask you at this point: do you have any direct recollection of the events on the morning of 27 November 1995?

A. None.

Q. None whatsoever?

A. None whatsoever.

Q. So any comments that you're making really are derived from looking at the documents?

A. That's correct.
Q. And also what your general practice would have been, so far as you can recall, at that time?
A. I have made some approximations based on that, but they're recorded on my chart as approximate or estimates.
Q. Thank you. You talked about preparing for the list, the morning list. Would that have involved also preparing theatre for the various procedures that were going to commence that morning?
A. Yes. Generally speaking, the patients would have been seen and dealt with first because only when you have seen them do you know what you need to prepare. So then you go into theatre and get ready the medications and equipment that's necessary.
Q. And how long would it generally take you to prepare what you need in theatre, the medications and equipment and whatever?
A. If I was on my own, it would take a little longer. I like to be in theatre between 20 and 30 minutes before starting.
Q. So it would take you 20 or 30 minutes to set up in theatre?
A. Yes.
Q. You have also mentioned that you would have examined

patients preoperatively.

A. Yes.

Q. And at that time would patients have come into a day care unit to be examined and then go to theatre?

A. That's very likely.

Q. You would have had to carry out a preoperative visit and assessment of each patient before they came to theatre; isn't that right?

A. Yes.

Q. And that would normally happen in the day care unit?

A. Yes.

Q. It wouldn't happen when they arrived in theatre?

A. No.

Q. Do you recall how long it would normally take you to assess a patient for a preoperative assessment?

A. Some of them actually are very fast, five minutes can be enough. Others might take 10 or 15, depending on the complexity of their background.

Q. Would the length of time required to examine and assess someone depend on their health and the procedure that they're due to have?

A. Yes.

Q. Would it be fair to say, Dr Campbell, that not all of the patients would have come into hospital at the same time for the procedures that morning?

A. They had the same time on the form to come in, but you're right, it's -- you see the first one when he comes through the door and others turn up and you see them as well.
Q. Does that mean then that you won't necessarily see all of the patients before you start your list, that you'll have to go out and assess them during the course of the list?
A. It occasionally happens. It's frustrating when it does, but mostly they're all seen before we start.
Q. Well, if you take 20 or 30 minutes to prepare theatre and it may take you five or ten minutes to assess a patient, if you arrived at 8.30 in the morning you wouldn't have enough time to see everyone before a 9.10 start in theatre?
A. I might not, I might not. If they all took five minutes, I would.
Q. Not if you were starting at 9.10 you wouldn't.
A. Perhaps I arrived in theatre without leaving 20 minutes before that.
Q. You don't note the time at which you assess the patient on the anaesthetic record, do you?
A. No.
Q. So you don't actually know?
A. No.

Q. Okay. When you carry out the preoperative examination and assessment, you sign that part of the anaesthetic record; isn't that right?
A. Yes.
Q. And that's usually the first page of the record?
A. It's usually on the front, yes.
Q. Yes. We have been provided with the anaesthetic records of the patients in theatre that morning for your list.
A. Yes.
Q. And you have signed all of the preoperative assessment records for all five patients.
A. Yes.
Q. We've been given some documents this morning that I would like to refer you to, just to clarify that with you. The first one is 301-135-009.
A. I don't have any of those numbers. Which document?
Q. This is the first nursing record in relation to case 1 on your list.
A. I have the chart for case 1 in my hand.
Q. The nursing record is their admission record [OVERSPEAKING] "OGD and pH studies". So you'll see at the bottom of the record, it's date and time of admission and the note is:

"They were admitted on 27 November at 8.30."

Do you have that document?

A. I have the anaesthetic record document. I don't see a ...

Q. Okay. I perhaps will refer to these documents. I know that the people in the chamber can see them and I can convey the content of it to you. You did provide us with the nursing records, so I had understood you had those before you, but that won't be a difficulty.

A. I have not seen those at all.

Q. My point to you is that the first patient who came in who was listed on the theatre log arrived at 8.30, was admitted at 8.30 in the hospital. If I move on then, the second one, which is 301-135-014, that was for the left orchidopexy, arrived at 8.05 in the morning.

The third one, for the bilateral groin explorations, which is 301-135-021, also arrived at 8.30 am. The fourth one, which is reference 301-135-028, that was for the excision of node. There's no time recorded on that, just the date of 27 November.

Finally then, the last one, which was the exploration of the right groin at 301-135-035, arrived at 8.50. So on the face of it, Dr Campbell, the five cases who were coming in for the list that morning arrived, one arrived at 8.05, two arrived at 8.30 and one arrived at 8.50, and there's one that we don't know. There's no record of what time they arrived at.

A. Okay.
Q. If we go to your table for a moment, which is 301-133-002. At the top left-hand corner of the table you have, between 8 and 9 am, pre-assessment of all patients. My suggestion to you is that given the amount of work and time that you required to prepare theatre and the anaesthetic drugs and the times at which those patients had arrived and were admitted to the day care unit, you may not have been able to do that between 8 and 9 in the morning on 27 November.
A. I may not. Perhaps I had some assistance in setting up the theatre. I can't recall. I have no direct recollection.
Q. Okay. If we move on then I'd like to ask you about the anaesthetic record. Is it correct that a number of people can make entries on an anaesthetic record so the consultant --
A. Yes.
Q. The consultant anaesthetist may record matters, the registrar may record matters, the recovery nurses may make entries on the recovery record?
A. Yes.
Q. So you had indicated you had signed all of the preoperative assessments for the morning of the 27th, whereas Dr Hill might have signed a post-operative

assessment?

A. I can't recall just at the minute what Dr Hill signed.

Q. Well, if we go to witness statement 117/2, page 2. You refer to case 1. It's at the bottom of the page. This is your witness statement, Dr Campbell.

A. Yes.

Q. Do you have it before you?

A. I have witness statement 2, page 2, yes.

Q. At the very bottom of the page, under (ii), you talk about the involvement of the anaesthetic trainee.

A. Yes.

Q. Case 1, you say:

"Both Dr Hill and I were involved in this case. Dr Hill has signed the recovery ward discharge note."

A. I will just turn up the recovery ward discharge note. In case 1, ah yes, the very end, "Discharged by". I have "Nurse" -- I can't make it out, but that's David Hill's signature, I think, under the anaesthetist section.

Q. Yes. If we now go to the anaesthetic record for case 2. If we go to the first page of that, this is the preoperative assessment and your signature's at the bottom of the page. 301-134-020. That's your signature on the bottom right-hand side.

A. It is. I have a copy of case 2 here.

Q. And if we go over to the next page, 301-134-021, on the bottom of the page for anaesthetist's signature, does that look like Dr Hill's signature?
A. Yes.
Q. Then if we go on to the following page, which is 301-134-022, that's your signature on that page.
A. Yes.
Q. And that's the discharge sheet.
A. That's correct.
Q. Is it correct that, very often, the nurses will fill in some of the boxes on that at times?
A. Yes. This particular page is filled in in recovery by the --
Q. Yes. If we move on then to the next page -- sorry, Mr Fortune?
MR FORTUNE: Sir, forgive me for interrupting. It may be that I'm lost, but I'm struggling to understand the relevance of all of this evidence and how it's going to help you with the central issue that you have to address. Perhaps somebody could help me.
THE CHAIRMAN: There is a concern, Mr Fortune, as you know, about who was in theatre at different times when Adam was being treated and we have a statement from Dr Hill, which indicates that, piecing together things as best he could, he thought that it may have been Dr Campbell who

left the theatre she was working in to go to assist Dr Taylor. As his evidence went on the other day, it wasn't all that very clear on that point. Dr Campbell, you have her statement, and we are exploring this because a concern which I have generally about this is that there are so many people who we do not know or we cannot define what their roles were. We don't know, for instance, who at least one of the nurses was. We originally understood Dr Taylor had had an anaesthetic assistant in the sense of a registrar. We then were advised that it was Dr Montague, but only up to a point. Then he was replaced or was he not replaced? Then did another consultant come over to help him when things went wrong?

I'm not sure how far we will get on this, but I think it is important to try to track down how far we can get on this with Dr Campbell's help. I don't anticipate that it's going to take very long to get through it, but I think we should try and get through it.

MR FORTUNE: I was merely looking for some guidance.

THE CHAIRMAN: As I understand it, one of the family's big concerns is that when Adam died, they do not know who the doctors and nurses were who were treating Adam. I understand that in trying to assess what went wrong in

Adam's treatment and how his death was caused, that that may not be central to the issue, but it would potentially be helpful to find out who was there, which to an outsider does not seem like a very hard question, but it has turned out to be a very difficult question to answer. If we know who was there, then we might have a fuller picture of what exactly went on because the records are not always as clear as they should be, the identity of the persons who were there isn't at all clear and we're trying to piece this together as best we can.

MR FORTUNE: One of the matters that we've learned over the past few days is that timings are not necessarily what they're supposed to be.

THE CHAIRMAN: I understand, for instance, when Mr Koffman was giving evidence yesterday, that there isn't always a precise moment, you don't always say "9.14" instead of "9.15" or "9.16". Some timings are approximate. That bit of looseness isn't a real concern. But I suspect if any of us were in the position of Adam's mother, we would really like to know who was there when her son died.

MR FORTUNE: Absolutely. I have every sympathy for that. I was merely trying to understand where we were going with this particular line of questioning.

THE CHAIRMAN: This is where we're trying to go and we'll see how far it takes us. It may be that we don't get very far, but we should try and go as far as we can.

MS COMERTON: The next page of the record is 301-134-023. That's the recovery ward sheet, Dr Campbell, and again that's normally the nurses who would complete that document; is that right?

A. That's correct.

Q. If we go to the next page, 301-134-024. Is this Dr Hill's writing on this page, so far as you can tell?

A. Yes.

Q. Thank you. Then the final page is 301-134-025. Again, does that appear to be Dr Hill's writing other than one entry on the right-hand side about "Voltarol, 12.5mg" at 10 am?

A. Yes, that's mine.

Q. So that would have been a record you made around 10 o'clock recording a specific drug that was administered?

A. Yes.

Q. If we go to your table for a second, please, it's 301-133-002. Is it correct, Dr Campbell, that there is no account of the period of time 10.00 to 10.15 on your table?

A. That's right.

Q. Is that because there were no handwritten records of yours during that period?
A. Just at 10 o'clock.
Q. Yes. Thank you. The main anaesthetic record that I wanted to refer to was the third one. If we could go to that, it's for the bilateral herniotomies. And the reference is 301-134-014. This really deals with the period from 10 o'clock onwards; isn't that right?
A. Yes.
Q. The first page, 301-134-014, again is the preoperative assessment and you completed that and that's your signature.
A. Correct.
Q. If we turn over then, please. 301-134-015. These are the post-operative instructions. Is that your signature, Dr Campbell?
A. Yes.
Q. Can this part of the record be completed either in theatre or sometimes it might be completed in recovery in order to see what the patient's requirements for pain relief are?
A. I can't be sure where that was completed, but you're right, it could be completed in either place. I'd like to think it was done at the end of the theatre case, but it could be in recovery.

Q. In fact, there is a note that the medicine was actually given at 12.25. It looks like a nurse's note; is that right?
A. Yes. So it was written before 12.25. That's all I can say about it.
Q. If we move on then to 016, the next page. This is the discharge sheet; isn't that right?
A. Yes.
Q. And there's no time discharge time recorded on that sheet.
A. No, there isn't.
Q. Is that your signature at the bottom of the page?
A. Yes.
Q. And again, is it correct that the nurse may complete that after doing observations and then get you to confirm that you're happy with the document?
A. Yes, that should be towards the end of recovery time.
Q. If we move on to the next page then, 017, that is the recovery record itself, running from 11.40 to 11.55.
A. Yes.
Q. And again, the recovery nurse will complete that usually.
A. Yes.
Q. The following sheet, 018. There appears to be two different sets of handwriting on this page. If we look

at the left-hand side, about five lines down from the top, there is an entry which looks like "neostigmine glycopyrrolate" and "0.6 ml".

A. That's my handwriting.

Q. Would that be the last drug that would usually be given in theatre?

A. Yes.

Q. And that's recorded as being administered at 11.30; is that right?

A. Yes.

Q. The rest of the record looks as if it's in Dr Hill's handwriting; isn't that right?

A. Apart from the blood pressures and the heart rates from 10.45 on. It changes to my handwriting. And the saturation numbers, as you go down -- the bottom half of that sheet on the left, it says "halothane".

Q. Yes.

A. Then there is a series of Xs. The handwriting changes at 10.45 and below that, the saturation, "SP02, 98, 98", the first two are Dr Hill's, the second two are mine, and below that, at the bottom, where there is an entry of blood pressure with systolic and diastolic, an arrow right at the bottom, that is roughly where I took over writing the vital signs. So the first half of that is in his hand and the second half is in mine.

Q. Do you recall that specifically, Dr Campbell, making those specific entries?
A. No, but it's my handwriting.
Q. Well, apart from the figures, the only marks on the page are either Xs or arrows.
A. Yes. It was my practice to measure the diastolic occasionally, so that's likely to have been mine. It looks like mine. It's the way I still write it.
Q. Would Dr Hill write them differently?
A. He hasn't written any diastolic pressures in the first half, as far as I can see. He's only written the upper part of the blood pressure.
Q. Could I suggest to you that it is very hard to tell who made those, given the fact that they're just markings on a page?
A. It's always hard to tell. If you ask me what I think I've written, that's what I think I've written.
Q. But you couldn't be sure of that? It's not as easy to distinguish between who made a marking and who actually wrote an entry; isn't that right?
THE CHAIRMAN: I think the doctor can be sure it's her from 10.30 because she has prescribed the drug at 10.30 and it's your entry towards the top of the page, doctor, isn't it, the 0.6 ml at 10.30?
A. At 11.30, that one.

THE CHAIRMAN: Sorry, that's 11.30. Okay. Then going back to -- you say, in effect, from about 10.30 or 10.45, you recognise your Xs rather than Dr Hill's Xs?

A. It's actually 98 that first drew my attention. The two 98s at the start are different from the "98, 99", which I recognise as mine. Looking at it, there is a change in the character of the markings at that point.

THE CHAIRMAN: The first two 98s are in a slightly different style to the next 98 and then the 99.

A. Yes. I believe that the first two are Dr Hill's and the second two are mine.

MS COMERTON: If we look at the lower half of the page then with the blood pressure. If we leave aside the various figures, would you accept that it's very hard to distinguish any differences in the markings in that lower half of the sheet between 10.45 and 11.15?

A. I had to look at it several times.

Q. Sorry?

A. I had to look at it several times myself.

Q. Is it possible that Dr Hill may have made those, but you just couldn't be sure?

A. It looks like my writing. It seems to fit. I don't know what to say to you. He could have written it. Anything's possible.

Q. And if we then go on to the next page, the last page,

which is 019, all of that writing is in Dr hill's handwriting; isn't that right?

A. I believe so. None of it is mine.

Q. If we go to your table, Dr Campbell, 301-133-002. On your analysis, you believe that you were in theatre, according to those records, between 10.55 and 11.20.

A. Yes.

Q. But you're not saying that you were in theatre from 10.15 to 10.55; isn't that right? There's nothing to prove that you were there.

A. There's nothing to prove I was in that room.

Q. Nor is there anything, on your evidence, to prove that you were in that theatre between 11.20 and 11.40.

A. I think I wrote up the neostigmine and glycopyrrolate at 11.30.

Q. I beg your pardon, between 11.20 and 11.30. The vital signs you say finished at about 11.15 and the next entry you made was the drug that I couldn't pronounce at 11.30.

A. That's right.

Q. So there's a gap of ten minutes between 11.20 and 11.30.

A. Yes.

Q. And also then, after the entry at 11.30, there's no record to show that you were in theatre between 11.30 and 11.55.

A. That I think is correct.
Q. Okay.
A. Other than the ... At 11.30, I wrote up the drug, as we discussed, and I was in recovery, I know, the sign-out we just discussed a few minutes ago at 11.55 or before that.
Q. In fact, the nursing note which you don't have, Dr Campbell, suggests that the patient returned to the ward at 12.05. So if the recovery record finishes about 11.55, it might take five or ten minutes to get the patient ready and send them off to the ward; isn't that right?
A. Yes.
Q. The point about this analysis, Dr Campbell, is that, hypothetically speaking, you may have had the opportunity to step out of the theatre that you were working in and go into another theatre. You might have had the time to do that.
A. I might have had the time to do that, yes.
Q. Yes. Do you recall any specific times that you did leave the particular theatre you were working in that morning?
A. Not from any recollection that I have. However, I have two recovery sign-outs that I believe were made in recovery, so I know I left on at least two occasions.

Q. Yes. Is the recovery room attached to the theatre?
A. I'm not sure which theatre I was in. It's in the same group of rooms.
Q. The same complex?
A. Yes.
Q. If we then turn to events in your theatre on 27 November. Other than going to see a patient who was coming in for a procedure and assessing them, would you have left the theatre for other reasons? For example, might you have taken a break at some point?
A. I may well have.
Q. May you also have gone off to do other things? For example, might you have gone up to a ward to see a patient if things were quiet in theatre?
A. It's unlikely. As a locum responsible for the lists, I would have felt uncomfortable leaving the list in the charge of someone else, although I know Dr Hill was very experienced and very capable.
Q. I was going to suggest to you that Dr Hill had quite a lot of experience under his belt and might have been regarded as a safe pair of hands. Would you accept that?
A. I accept that.
Q. Thank you. Dr Hill gave evidence a few days ago and I'd like to tell you what his evidence is. It was, to the

best of his recollection, somewhere later in the list -- so it wasn't at the beginning of the list -- a person came into theatre and he believes that that was a nurse. Do you have any recollection of that at all?

A. No.

Q. And his evidence is that that person said the patient next door had fixed dilated pupils and was slow to waken up. The consultant anaesthetist with Dr Hill in the theatre then left that theatre to go into the adjacent theatre to assist Dr Taylor. That person was out of theatre for just a few minutes. That was his evidence on Tuesday. Do you recall being the consultant anaesthetist who left the theatre on Monday morning to go in to another theatre to assist Dr Taylor?

A. I don't. I don't recall it.

Q. Could it have been you?

A. I think it's unlikely that I would have gone to help and returned after a few minutes. It's more likely I would have gone to help and stayed.

Q. Dr Hill wasn't sure whether the anaesthetist actually did return. So is it possible you may have left the theatre you were working in to go out and assist Dr Taylor in the other theatre and forget about whether you came back or not?

A. I can only speculate. I have no recollection of doing

so. I think it's more likely that a consultant would ask for a trainee to support rather than a locum, but that's a personal view.

Q. And I suppose it would depend on the urgency and circumstances in the other theatre?

A. Yes.

Q. The other possibility that Dr Hill raised was that the consultant anaesthetist in theatre with him at that particular moment may have been the consultant who was on duty in paediatric intensive care that morning. Do you recall who was on duty in the paediatric intensive care unit?

A. I'm sorry, I don't.

Q. Do you recall the consultant anaesthetists who were working in the Children's Hospital at that time?

A. I remember Peter Crean being one of the consultants and Rob Taylor. I think I remember Seamus McKaigue at that time. I did come back and work in the hospital again some years later, so it's slightly muddled. I'm not sure if Dr Chisakuta was there at that point or in my later visits. I know Dr Lone(?) was there in my later visit, but I don't think he was there then.

Q. We had another name of a locum consultant that had been mentioned, which was the one that I had said to you earlier, Dr Rao. Do you recall if he was working in the

Children's Hospital at that time?

A. I don't recognise the name. Do you have a first name?

Q. Not at the moment. We'll see if we can find one. The other possibility was Dr Kielty.

A. I know that name, but I don't think he was working there. I think he might have been retired.

Q. Thank you. Would the consultant anaesthetists from intensive care ever come into theatre during a list? Is that something that would have happened?

A. I recall the consultant in intensive care as being dressed in outdoor clothes, but I think there may have been a joint coffee room where views could be exchanged and information exchanged. But I can't recall. I don't recall having someone come into my theatre from intensive care.

Q. If you had been stepping out of the theatre either to go and assess someone or deal with some other task, might you have asked the consultant anaesthetist from intensive care to come in and keep an eye on things while you stepped out?

A. Not if David Hill was the anaesthetist, no.

Q. Dr Brown came in and carried out the fifth case in the list that morning. Do you recall any discussion with him during the last case on the theatre list about Adam Strain?

A. No.
Q. Do you recall Mr Brown mentioning what had happened in the theatre that he had just left?
A. No, I don't.
Q. Do you recall any conversations at all, Dr Campbell, about Adam Strain, either on 27 November or in the aftermath?
A. I have no recollection of the day and I had no conversations involving this unfortunate child at any point until recent years.
Q. Was that until you were asked to make a statement to the inquiry?
A. I did get a letter a year or two before that as a kind of notice that something might be requiring my presence, but I had no knowledge of this really until that point. It's only in the last few years.
Q. Thank you. Had you any knowledge of Dr Montague being in the other theatre in which Adam's surgery was being performed?
A. No.
Q. Or -- sorry?
A. I never had a discussion with Dr Montague about Adam Strain ever.
Q. Okay. Were you aware of any other trainee anaesthetist who replaced Dr Montague in that other theatre that

morning?
A. No, I wasn't.
Q. I'll come back to that. One other point that I wanted to ask you generally was: were you ever told anything about the accuracy or inaccuracy of blood gas analysers in determining the serum sodium levels while you were in Children's Hospital?
A. I'm not sure if I was told anything in the Children's Hospital, but perhaps when I was working in the Royal Group I was cautioned against relying on sodium results. It's a very vague recollection. I think calibration was perhaps intermittent. I don't recall exactly why. But we did tend to use laboratory sodiums as more reliable.
Q. And could you just refresh my memory because I can't find from your CV when were you working in the adult hospital?
A. 1991, I think.
Q. It was earlier then. It was before this?
A. Yes.
THE CHAIRMAN: Doctor, is that a problem or an issue which has arisen in other hospitals that you've worked in?
A. In recent years I have to say that blood gas machines are much better, much more accurate and much more heavily relied upon. I worked in the province exclusively until about 1993, I think, so I hadn't

really come across it anywhere else other than within the province.

THE CHAIRMAN: But the reliability of blood gas machines generally has improved in recent years compared to what it was in the early to mid-90s?

A. Yes, I believe so.

MS COMERTON: I would like to move on then and ask you generally about trainee anaesthetists in the Children's Hospital around November 1995. Do you recall, Dr Campbell, around that time at what point trainee anaesthetists would come on duty each morning during the week?

A. I don't know if there was a set handover time. I wouldn't have been on that rotation, but I would have imagined they'd want to change over between 8 and 9 in the morning. The list started at 9.

Q. Yes. The trainee anaesthetists, were they assigned to a consultant or assigned to a list in theatre?

A. I presume it would have been a list rather than a consultant, but I don't know that for sure.

Q. Do you recall how many trainee anaesthetists would be turning up typically on a weekday morning to do a list?

A. Sometimes none. No more than two, I think. I don't think the theatres were fully running all the time. I think you might have had only two lists out of the

possible three. So I think having more than one or two turn up would have been difficult.

Q. Would the trainee anaesthetist have known before they came on duty, which list they were going to do or did they just show up and they were given their tasks then?

A. No, I'm not 100 per cent sure. I'd like to think that they had a weekly schedule issued by the secretaries to say: this is your schedule for next week, but I couldn't absolutely be sure about it.

Q. I will tell you why. If we could go to the transcript for Dr Montague, which was on 11 May, page 15.

Do you have the transcript before you, Dr Campbell?

A. I've got nothing -- no.

Q. I will read it out to you. Dr Montague was giving evidence about what happened in the morning when the trainee anaesthetists came on duty. So he said:

"The way it was done -- my memory of the way it was done was that the registrars would arrive some time around 8.30. There was a whiteboard outside the theatre with the lists that were going to be performed that day and, between us, we would decide which lists we wanted to do, we were interested in doing for particular reasons, or -- and so we would decide among ourselves where we would go that day."

A. Things have moved on a lot.

Q. Does that accord with your recollection about how things were organised in 1995?
A. As I say, I wasn't on that rota at the time with the trainees, so I didn't have that experience. But I can fully believe that was the case.
Q. You're telling me you don't actually know; is that right?
A. I don't actually know.
Q. Thank you. Could I refer to a letter? It's two pages, 301-124-683 and 684. This is a letter which talks about what was happening on Monday mornings in November and December 1995. I want to ask you a few things about that to see if you can assist us. The letter says that Mr Brown would normally have had a routine operating list on a Monday morning in the Children's Hospital in November and December 1995. Do you have any recollection of that?
A. No.
Q. It also suggests that there was only one operating list each Monday morning in November and December 1995, except for the morning that Adam had his transplant. Do you have any recollection of that?
A. No.
Q. The letter goes on to say that the anaesthetists involved on a Monday morning during November

and December 1995 were yourself, Dr Campbell, and a trainee anaesthetist, and it names three: Dr McBrien or Dr Montague or Dr Hill. Does that accord with your recollection?

A. From reading the paperwork, yes.

Q. "There was therefore no requirement to roster a second trainee to theatre on Monday mornings as there was routinely only one operating list running. If a second trainee anaesthetist had attended theatre at 9.00 on Monday morning 27 November 1995 to assist Dr Taylor, it would most likely have been by way of a special arrangement as he or should would otherwise have had no duties to perform there on a normal Monday morning."

A. That makes sense.

Q. Thank you. There is a possibility that there was a second trainee anaesthetist in the theatre during Adam's transplant after Dr Montague says he left, and all of this really is geared towards trying to find out who that could have been. If we go to the transcript for 11 May, page 44, this is Dr Montague's transcript, Dr Campbell. At line 6, Dr Montague says:

"There were five of us on that on-call schedule: one person in Royal Maternity and four assigned to the Children's Hospital."

Do you recall that?

A. No.
Q. Okay. And the other person who he identifies as being on that rota was a Dr Amit Bedi. Do you recall Dr Bedi acting as a trainee anaesthetist?
A. No.
THE CHAIRMAN: Do you recall Dr Bedi at all?
A. No. Sorry.
MS COMERTON: If we then go to Dr McBrien's statement. That's at witness statement 194/1, page 2. It is question 1. Do you have a copy of Dr McBrien's statement before you, Dr Campbell?
A. No.
Q. Then I'll just read it out to you. Dr McBrien, you may recall, you think, was with you in the afternoon during your afternoon list on 27 November. And he had surgeries later on in the early evening on that date as well. He has inspected the relevant clinical records in relation to Adam Strain's anaesthetic chart and there is no record of his attendance at that case. And in addition, he said:

"The theatre log for 27 November shows that I anaesthetised two cases at 18.30 and 20.05. It is my recollection that on a weekday such as this, the trainee anaesthetist on call overnight came on duty at 13.00. This would indicate that I was not in the hospital that

morning."

If a trainee anaesthetist was working on an afternoon list, is it correct that they would normally have started duty around 1 pm?

A. I do remember that pattern of work. I do remember that. It was a concession to the hours.

Q. Thank you. Do you recall what the arrangements were in the Children's Hospital in November 1995 where a trainee anaesthetist wanted to go off duty in the middle of a operation?

A. At that time, it would have been unusual for a trainee to leave before the end of an operation, regardless of the time. I think that would have been ... New arrangements were coming in about limited hours for doctors and there was an increasing push when people finished their shift to leave, but I think, at that stage, we were in between phases. Trainees wanted to stay to the end, but regulations were preventing it.

Q. So even if someone had been on duty for 24 hours, your recollection is they would have stayed on to the end of the operation?

A. They would have wanted to or they would have offered to and might have been refused.

Q. If they wanted to leave, do you recall who would normally have arranged a replacement trainee

anaesthetist? Was it the consultant or the trainee?
A. I don't recall.
Q. Did you have any practice at that time in relation to trainees being replaced during operations?
A. The closest thing I can think of is that if I had a trainee with me in the morning who wanted to join a different consultant in the afternoon, he or she might leave me before the end of my list so as not to miss the start of the next one, but I wouldn't have replaced the trainee.
Q. Would that have been for a short period of time?
A. Yes.
Q. Do you know what Dr Taylor's practice was about releasing trainees to leave the operating theatre and go home in November 1995?
A. I don't.
Q. Finally, Dr Campbell, then I would like to move on to the first brainstem test that you were involved in. If we go to 058-004-009. This is the brainstem test form.
A. I have a copy.
Q. So just to confirm, the doctor number 2 for the first test, that is your signature.
A. Yes.
Q. And you have then completed the second column, which is entitled "Dr 2" in answer to all of those questions.

A. Yes.
Q. So in answer to the question at 1(f):
"Could a patient's condition be due to a metabolic or endocrine disorder?"
You have answered "no".
A. That's correct.
Q. Were you aware of Adam's serum sodium concentration results during his surgery and when he transferred to PICU?
A. I believe I would have been aware. I cannot, as I say -- I have no recollection of the day.
Q. The records show that he had a serum sodium concentration of 119, which was recorded or reported about 1 pm on the 27th, and then, after that, there was a further lab report of 124 millimoles per litre for serum sodium concentration.
Do you accept, Dr Campbell, that it might have been preferable if Adam's hyponatraemia had been corrected before the brainstem test commenced?
A. I do accept that. I would prefer the sodium to be higher.
Q. Or certainly, by the time of the second brainstem test, efforts should have been made to try and normalise it?
A. I understood they tried dialysis and they tried sodium supplements and were unable to.

Q. Because the purpose of the test really is to exclude either a metabolic or biochemical cause of coma; isn't that correct?
A. It is.
Q. So there is no suggestion that Adam wasn't brainstem dead, but in terms of practice and good practice, it has been suggested by Dr Haynes that it would have been better for that serum sodium concentration to have been normal when the brainstem tests were carried out; do you agree with that?
A. I agree.
MS COMERTON: Thank you.

Questions from THE CHAIRMAN

THE CHAIRMAN: Doctor, can I ask you, so far as I understand it, Adam is one of only two children who has died during renal transplant in the Royal. His death was entirely unexpected; right?
A. Yes.
THE CHAIRMAN: I'm not asking about any particular role you might have had, but do you remember, in late November 1995, this event happening and Adam dying?
A. I don't. I have no recollection of it. It surprises me that I have no memory of this. It must have been quite an event, very upsetting all round, but I have no direct recollection of this.

THE CHAIRMAN: You understand why I'm asking you because it does seem, from all the accounts we've received, that it clearly was unexpected and it clearly was very upsetting and it is, on one view, curious that people don't remember the event. It's one thing not to remember the details of what time they started at or what exactly they were doing at 9.22 compared to 9.57 or something, but not to remember the event at all seems a little bit odd.

A. Perhaps I can tell you a little bit about my personal situation at the time, which might be helpful. I had just got married within a few weeks before this. My husband was living in England, so when I wasn't on duty I flew to England for several days, so there are large chunks of the interaction you would normally get with colleagues that I was missing because I was spending a lot of time in England.

THE CHAIRMAN: Does it fit in with that in the sense you were passing through the Royal, waiting to go on somewhere else?

A. I was. I was making visa arrangements for travelling to Toronto, where my next post was.

THE CHAIRMAN: And that started in January, did it?

A. That's right.

THE CHAIRMAN: Okay. If you wait one moment, please,

doctor.

Does anyone have any questions for Dr Campbell? No? Thank you very much, your evidence is complete and thank you for helping us.

We'll end the link and take a short break and then move on to Mr Shaw.

(11.15 am)

(A short break)

(11.35 am)

MR McALINDEN: Mr Chairman, before Mr Shaw starts his evidence, he has an arterial graft at the back of his right knee, which means that if he's sitting for any length of time, he gets considerable cramp and pain in it. So every 15, 20 minutes, would he be able to stand up and stretch just to basically relieve that?

THE CHAIRMAN: Okay.

MR PETER SHAW (called)

Questions from MS COMERTON

MS COMERTON: Good morning, Mr Shaw. I would like first to confirm the previous statements that you have made to the inquiry and that we've received. First of all, you have a police statement that was made on 2 May 2006.

A. That's right.

Q. Then we have three inquiry statements from you. The first was on 8 April 2011.

A. Yes.
Q. The second was 13 August 2011.
A. Yes.
Q. And the third was 17 October 2011.
A. Yes.
Q. If I turn first then to your experience as a medical technical officer and if we could refer to your police statement at 093-014-045. This is your police statement, Mr Shaw, that you made in May 2006.
A. That's correct.
Q. You're now retired; isn't that right?
A. That's correct.
Q. And you retired in 2005?
A. Yes.
Q. But you had been employed as a medical technical officer in the Royal Group of Hospitals?
A. No, only in the Children's Hospital.
Q. Only in the Children's Hospital?
A. Yes.
Q. So you have indicated, about six lines down, that you commenced employment as a medical technical officer in 1978.
A. That's correct.
Q. And then you had about 27 years' experience in that role?

A. Correct.
Q. Was all of that employment and experience in the Belfast Children's Hospital?
A. No. I did my times -- I started in Frimley Park, which is in Surrey, England.
Q. When did you start there?
A. I honestly don't know.
Q. When did you come to the Children's Hospital as a medical technical officer?
A. In 1980.
Q. Nineteen?
A. Eighty.
Q. And between 1980 and November 1995, did you work in the Children's Hospital as a medical technical officer?
A. Yes.
Q. So that's 15 years' experience there before Adam's operation?
A. Yes.
Q. Did you work in the adult hospital at all?
A. No.
Q. I'd like to ask you about your recollection of events on 27 November 1995. You have indicated at various points in your witness statements:
"I have no personal recollection of being present. I can't specifically recall being present during that

operation".

What recollection do you have of what happened on 26 and 27 November in the Children's Hospital in relation to Adam Strain?

A. Nothing, really, because ... I think I was on call --

Q. Yes.

A. -- for that particular weekend, which means I would have been in for Adam's operation because I was on call, the technician on call to cover the theatre, and the ICU.

Q. If you were on call, was that for 24 hours or was it for the whole weekend?

A. I think -- I'm not certain, but I think it was for the whole weekend. I think you'll have to verify with Tommy Ryan about that because I'm not sure.

Q. Let me try and assist you. You have said in the page in front of you:

"I cannot specifically recall being present during that operation, but I have been informed by Tommy Ryan, my line manager, that he had checked the notes and that I was on duty that day. By that, I mean I was on call and therefore would have been called in for an operation commencing at 07.00 hours."

So that's the height of your recollection?

A. That's it, yes.

Q. Okay. If we could refer to Mr Ryan's statements for

a moment. It is witness statement 125/1, page 2. First of all, I'd like to look at question 1, the top of the page, where halfway through it -- this is Mr Ryan's witness statement to the inquiry, Mr Shaw; it's not yours, it's Mr Ryan's. He says:

"In November of 1995, I was the senior of two technicians with responsibility for theatre and intensive care, the other technician being Peter Shaw."

So he was your boss --

A. That's correct.

Q. -- effectively?

A. Yes.

Q. And he says he doesn't recall anything specific to the dates between 26 and 28 November 1995. He also mentions about his normal duties, about cleaning ventilators, making sure they're ready for use, stock levels. Would most of your work as a medical technical officer occur in intensive care?

A. No. It would be between the two.

Q. So it was split evenly?

A. Yes.

Q. If we look then down to the answer to question 2, he's asked which medical technical officer was involved in Adam's transplant. And he says:

"The technician on call that night was

Mr Peter Shaw, the only evidence being the memory of the event. When the trust asked for information in 2005 [and I think he changes in that a later statement to say 2006], I discussed it with Peter and he agreed he was on duty."

Is that correct?

A. That's correct.

Q. Thank you.

THE CHAIRMAN: I take it, Mr Shaw, that you agreed you were on duty because Mr Ryan said that --

A. No, no. If I was on call for that weekend -- because we used to run until 8 o'clock the following day -- I would have been called in for that particular operation.

THE CHAIRMAN: Right.

MS COMERTON: And your recollection is that you were on call?

A. Yes.

Q. Yes, thank you. Had you been asked to provide any other kind of statement or account of what happened after Adam's surgery between 27 November and making the police statement?

A. No.

Q. Had you been involved as a medical technical officer in any other paediatric renal transplant prior to Adam's operation?

A. Not that I recollect.
Q. And you would accept that there were very few of those type of operations occurring in the Children's Hospital in 1995?
A. I believe it was in its infancy.
Q. Yes. Do you recall whether you were involved in any paediatric renal transplants after November 1995?
A. All I can say is "probably".
Q. Do you have any idea of how many?
A. No.
Q. I'd like to move on then and ask you about your role and responsibilities in and during Adam's transplant surgery. What would you normally have been doing as a medical technical officer, Mr Shaw, for this type of surgery, for a paediatric renal transplant, or other kinds of major surgery?
A. Usually, you set up a CVP line, central venous pressure line --
Q. But we actually get into setting up anything --
A. But that's part of the procedure.
Q. Yes, but would you have been involved in the preparation of theatre --
A. Yes.
Q. -- prior to the start of the surgery?
A. Yes.

Q. Sorry, I interrupted you. If you could go ahead and answer the question.
A. If the case is a major case, you would set up an arterial transducer, CVP transducer, at the request of the anaesthetist.
Q. Would that have occurred before the patient came to theatre?
A. Oh yes, you would have to set that up before.
Q. And once the patient came to theatre, was the patient then connected up with the monitors and the transducers?
A. Only after he had been anaesthetised.
Q. Yes. And who would have carried out placing the transducers and connecting up to the monitors? Would that have been a task for the medical technical officer?
A. It could be. And again, it could be the anaesthetist. But usually it was the medical technical officer who would connect it.
Q. I am going to come back and ask you about the CVP specifically soon. If we can go to witness statement 125/1, page 5. This again is Mr Ryan's witness statement and he makes a comment that I'd like to invite you to comment on yourself. At question 11(e) he says:
"As a technician, I was not involved in the treatment of any patients other than providing and checking equipment."

Is that statement correct?

A. I suppose, yes, it is.

Q. Okay. So when you were involved as a medical technical officer in November 1995 in Adam's surgery, would you only have been involved in providing and checking equipment?

A. In a theatre, yes.

Q. Yes. Would you have had any role at all in terms of the preparation or administration of medication?

A. No.

Q. Or in the organisation or administration of fluid management?

A. No.

Q. Or in monitoring vital signs?

A. Yes.

Q. What was your role there?

A. Because this -- we come back to the transducers.

Q. So only in relation to the transducers?

A. Yes, and the equipment they attach to.

Q. What about catheterisation or measuring urine?

A. No.

Q. Thank you. I will come to each of those points in due course. If I could ask you generally: there was a Children's Hospital protocol for renal transplantation in small children in November 1995; were you aware of

it?

A. No.

Q. You have indicated that your shift was to finish at 8 am on the Monday morning, 27 November.

A. Well, usually that's the way, yes.

Q. As a medical technical officer, would you have helped prepare and set up theatre for the transplant operation overnight or in the early hours of the morning of the 27th?

A. It'd be the early hours of the morning.

Q. One of the nurses had given evidence, Nurse Conway, who was one of the nurses who was in early and preparing theatre. Staff Nurse Patricia Conway had given evidence that she had been informed of the handover -- sorry, at the handover at about 8 o'clock on the Sunday evening, the 26th, of the possible transplant surgery. And if we could go to that briefly. It's the transcript of 30 April, page 5. It's lines 9 to 17. This is Nurse Conway's evidence. She was asked:

"Question: Do you recall at what stage in the evening you heard that information?

"Answer: It must have been at handover from the day staff.

"Question: So your handover, when you came into work, would have been around 8 o'clock, 8 pm?

"Answer: 8 pm.

"Question: So you knew then that you were going to have to prepare theatre just in case the transplant went ahead?

"Answer: Yes."

As a medical technical officer, can you recall when you would usually have been told that unplanned surgery was going to be scheduled and things needed to be prepared?

A. Well, if I was on call I would have been in the hospital at some time during that weekend, so I would have been informed. Otherwise, I would have had a phone call if I was at home, because I was on call, I'd have been phone called and told there's a possibility of a transplant. Then you have to sort of work out the timescale when you're going to come in to set everything up because it was -- hit and miss, you didn't really know what timescale was going.

Q. Yes. Do you recall whether you were in the hospital on the evening of the 26th, morning of the 27th, or whether you were at home and got a phone call?

A. I honestly can't say because I'm not sure.

Q. Do you recall who would have contacted you to tell you there was going to be an operation?

A. No.

Q. What would be the minimum period of notice that you would have needed before the start of a major surgery like a paediatric renal transplant?
A. Personally, myself, I would want at least two or three hours to set up.
Q. So if surgery was to start at 6, you would have needed to have known by about 3 am?
A. 3 am, yes.
Q. And if it wasn't clear whether the operation was going to proceed or not, what was the usual practice?
A. Well --
Q. Could I just finish? As a medical technical officer, would you normally have been told, "There's a possible operation, get theatre ready", or would you normally have only been told when it was certain that the operation was going to proceed?
A. No, you'd have been told it's a possibility.
Q. Yes.
THE CHAIRMAN: If you're told there's a possibility, does that mean that you then set up the theatre in case?
A. Yes. Because ...
THE CHAIRMAN: Because it might be too late by the time --
A. [OVERSPEAKING] about the timescale because if I'm at home, I [inaudible] time to get in. Usually, if I know there's something going on, I would come in to the

hospital, set up and just stay.

MS COMERTON: I asked you then about preparing theatre. You clearly were involved as the technical officer in preparing theatre for the surgery. Who else would have assisted in that task?

A. Probably the scrub nurse and the second nurse would be there as well.

Q. Is the second nurse the runner?

A. Yes, if she's not scrubbed, if she wasn't going to be the scrub nurse, yes, she had would be the runner.

Q. Would there be any other personnel involved in helping you prepare the theatre?

A. No, I ... It's hard to say, but I think at that time in the morning, that time of day, it would be a skeleton staff.

Q. Yes. And what exactly would you have done to prepare theatre for a paediatric renal transplant?

A. I would have set up, as we come back now, the transducers and make it -- first of all, I would check the anaesthetic machine, the monitors, to make sure everything's working, the vapouriser is all filled up, there's oxygen on the back and everything is up and ready to go. Check the monitors, make sure they're working properly, then go in and set up the transducers, CVP and arterial transducer.

Q. Could I just pause there for a moment? There was a suggestion that, at some point after Adam's transplant surgery, the Siemens monitor had a dim screen and had to go and be repaired. If when you went into theatre to prepare, the monitor screen was dim, would that have been apparent to you?

A. Not to my recollection. There was nothing wrong with it.

Q. Yes, but if something like that -- if you had noticed that the screen on the monitor --

A. I would have changed it.

Q. Thank you. So you have said you would have set up the transducer system. Would those transducers have been zeroed?

A. Yes.

Q. Before the patient came to theatre?

A. Yes.

Q. And you would have carried out that task?

A. Yes.

Q. I would now like to refer you to a plan. It's 300-005-005. Mr Shaw, do you recall in which theatre Adam's transplant operation took place?

A. Yes.

Q. Which theatre was it?

A. I'm trying to ... Yes.

Q. Maybe if you look at the plan.
A. I'm just trying to configure it.
Q. This is a plan that we were provided with and we were told that the area shaded red was where the transplant surgery occurred.
A. Yes. Sorry, there would be --
THE CHAIRMAN: Do you think it's the red area?
A. The red area because it's the only -- the central theatre. What I call central theatre.
MS COMERTON: Do you know what number it was?
A. I think it was called 1.
Q. Theatre 1?
A. Yes. I don't think the theatres were numbered in any specific order.
Q. The reason why I ask you is some witnesses have referred to the theatre by number. So that is why I was asking you that?
THE CHAIRMAN: Why do you think it was the red theatre?
A. Because I'm trying to think. That was the main theatre, that was the biggest theatre in the complex. There were only three theatres. There was one, what they called the orthopaedic theatre, the main theatre and then the small theatre, which is at the end of a corridor.
THE CHAIRMAN: Right.
MS COMERTON: Where was the orthopaedic theatre?

A. That was adjacent to the back -- I would call it the back of the main theatre -- next door to the recovery department.

THE CHAIRMAN: Would you look at this plan? You see there's a theatre marked red and a theatre marked green. Then just below the theatre that's marked green to the right, just where the yellow is coming up, is another theatre.

A. Hang on, this is wrong. The orthopaedic theatre was the one adjacent to the recovery.

THE CHAIRMAN: Just take your time.

MS COMERTON: This plan may not be right, Mr Shaw, which is why we're asking you.

A. I've got it now. See where you come down the corridor, down the screen, and you've got a double line and you have an anaesthetic room? Across there you have a theatre marked in green. That is the main theatre.

Q. The green theatre is the main theatre?

A. The green theatre is the main theatre.

Q. Okay. There was another routine operating list running on that Monday morning, on the 27th. We had been informed that Adam's surgery was in the red theatre and that routine list was in the green theatre. But other witnesses have said that's not the case.

A. No, because the other theatre would be what we call the orthopaedic theatre and they were very adamant -- that's

not the word -- that nobody went in there unless it was an orthopaedic case, for obvious reasons.

Q. So on your recollection, the red theatre is the orthopaedic theatre?

A. Yes, because it's adjacent to the recovery. Yes.

Q. Do you recall there being another list, another theatre in operation at the time?

A. No.

Q. If you had been in the green theatre for Adam's transplant surgery, which of the other two theatres would normally have been used for a routine Monday morning list?

A. The small one.

Q. Which is the one highlighted yellow?

A. Yes.

Q. Thank you.

THE CHAIRMAN: Mr Shaw, I know you don't remember this, I know you have no recollection of the morning of the 27th November, when Adam's operation took place, but you said if you were on call with a shift ending at 8, either you'd be in the hospital or you'd come in specially and set the theatre up. But come 8 am, would you go home?

A. No.

THE CHAIRMAN: And how long would you stay for?

A. Until the list finished. Until the end of the following day unless there was -- there was only two of us there so if I had to come in, I usually stayed until whatever time we finished, about 5 or 6 o'clock in the evening.

THE CHAIRMAN: So if you'd been called in overnight on 26 and 27 November, Sunday night and Monday morning, you would have come in for what turned out to be Adam's operation.

A. Yes.

THE CHAIRMAN: And you would have stayed for the end of Adam's operation?

A. Yes.

THE CHAIRMAN: Then we know that there was another theatre in which there was a normal list going on, on the Monday morning. Would Mr Ryan have covered that?

A. No. I would have been covering that.

THE CHAIRMAN: So you'd --

A. Once Adam had gone from the theatre to recovery or to ICU, whichever the case may be, I would just carry on with the other theatre.

THE CHAIRMAN: Well, if the other theatre list started at about 9 o'clock or a bit after 9 o'clock, that theatre would need to be set up first.

A. That's right.

THE CHAIRMAN: And if you were in Adam's theatre, who would

set up the other theatre?
A. I could set it up because if you look at the map there, they're almost next door on each other. I mean --
THE CHAIRMAN: So you would leave Adam's theatre --
A. But I'm in contact all the time. It's just a call.
THE CHAIRMAN: Okay. Thank you.
MS COMERTON: Are you suggesting that you would have set up the other theatre, the yellow one, after the start of Adam's surgical procedure.
A. Could have done, yes. Or I could have done it before if I knew there was a list going to come on because usually the list -- we get the list the day before, you look at the list and say: there's a list coming on. I could set it up after I set up Adam's. So I could have set it up.
Q. For a normal Monday morning list, how long would it usually have taken you to set up theatre? I know it depends on what the procedures are.
A. You look at the list and you see what's going on and then set up the theatre appropriately to whatever the list is. The same with the anaesthetic -- as I did with Adam's. I set up the anaesthetic machine, check it all over and make sure everything's working.
Q. You have said that for Adam's surgery it would have taken you about two hours.
A. That's because there's transducers, setting up

transducers, making sure they're patent, and all the way through, there's no air in the system and making sure everything works and it all plugs in and works with the monitors.

Q. For a normal list, would you have had an average time to set up that particular theatre?

A. No, you -- I am not on a clock.

Q. Thank you. I would like to ask you about the positioning of Adam for surgery. You had indicated in your statements that you would have assisted with positioning a patient on the operating table.

A. Correct.

Q. Who would have directed you as to which position Adam should have been in for surgery?

A. Usually the surgeon.

Q. And that position may change. For example, if an epidural's being administered, the child might need to be put on their side?

A. If an epidural was used, yes, the patient would be -- the epidural would have been put in with the patient on this side (indicating), yes.

Q. Okay. When Adam arrived in theatre and the administration of the anaesthetic began, what would have been your role as the medical technical officer at that point?

A. To assist the anaesthetist.
Q. So what sort of things would you have been usually doing to assist the anaesthetist?
A. Well, you have to -- because he's keeping the airway open, you'd have to assist him by giving him the laryngoscope, if it's needed, and the ET tube, the endotracheal tube.
Q. So you would have been handing him whatever things he needed?
A. Yes.
Q. For that type of operation in 1995, who would have been the usual anaesthetic personnel in theatre at that time?
A. The anaesthetist.
Q. Would there usually have been a trainee?
A. I couldn't say, to be honest.
Q. What about nurses? What nurses would normally have been involved in the anaesthetic team?
A. To the best of my knowledge, at that time, there were no anaesthetic nurses.
Q. Would there have been any nurses who, although mightn't have been entitled --
A. Yes [OVERSPEAKING].
Q. -- anaesthetic nurses would have been assisting --
A. Yes.
Q. If I could be allowed to ask the question. Any nurses

who might be assisting with any of the anaesthetic tasks?

A. No.

Q. So the only people involved in anaesthetising Adam in 1995 would have been yourself, the consultant anaesthetist and the trainee anaesthetist, if there was one there?

A. Yes.

Q. Did nurses begin to assist in anaesthetic duties later on in your experience?

A. Yes.

Q. And do you recall when that was?

A. No, I don't.

Q. During the course of the operation, would anyone else have assisted usually with anaesthetic tasks other than the three people I've mentioned to you already?

A. No.

Q. And if there was a trainee anaesthetist and they left during the course of the operation, would that change the duties that you were carrying out as medical technical officer?

A. I'm sorry. I'm not sure where this question's going.

Q. In Adam's case, there was a consultant anaesthetist.

A. Yes.

Q. There was a trainee anaesthetist and yourself acting as

the medical technical officer. The trainee anaesthetist has given evidence that he believes he left theatre at about around 9 o'clock that morning because he was coming off duty. If that is the case, would that have affected what tasks you were doing in theatre?

A. No. I would still be assisting. I would assist the anaesthetist. But other than that, no, it wouldn't because usually -- I'm not sure where you're going, to be honest.

Q. Would you have taken on more tasks?

A. No, I can't take on any more tasks than I'm already doing. I'm not a doctor.

Q. I realise that, thank you.

If I could ask you then about any pre-surgical electrolyte tests. Mr Shaw, you have indicated in your witness statements that you knew how to use a blood gas machine at that time.

A. That's correct.

Q. So you would have been trained and authorised to do so?

A. Yes.

Q. And you would have had experience prior to November 1995 in doing exactly that?

A. Yes.

Q. So if any blood gas analysis was to be done, you'd normally be the person to take the sample to the machine

and process the sample there?
A. Yes.
Q. Is it correct that when you go and process a sample at a blood gas machine, there's a printout that is produced by that machine?
A. Correct.
Q. What would you normally have done with the printout from the blood gas machine?
A. Handed it to the anaesthetist.
Q. And when would you have done that?
A. As soon as you pick it up from the machine. It's a matter of time. I don't know -- minutes, seconds, I don't know.
Q. What was done normally with the printout once the anaesthetist had seen it?
A. It was usually pinned to the anaesthetic sheet.
Q. And who would have done that?
A. The anaesthetist.
Q. Would you ever have done it?
A. Not to my knowledge.
Q. Okay. Would you also have had experience in arranging the transportation of a blood sample to go to the laboratory for analysis?
A. Yes, I have done that, yes.
Q. If we then do turn to the issue of CVP. You have said

that you would have set up the transducers before Adam came into theatre.

A. Correct.

Q. And they would have been zeroed before he came into theatre?

A. Yes.

Q. And would you have done this alone or with any assistance?

A. Usually myself.

Q. Would the anaesthetist normally have discussed central venous pressure with you?

A. Well, he would have asked me to set it up, yes, if he needed it.

Q. Would he have had any kind of discussion usually about the management of CVP during surgery?

A. No, not with me.

Q. And in November 1995, would you have been aware of what a normal CVP reading would be for a child during surgery?

A. No, I cannot recollect that.

Q. So whenever the CVP readings were coming up on the monitor, Mr Shaw, would you have paid any attention to them?

A. Yes, I would have, if there was something going on, if they'd dropped below the baseline or there was

a baseline coming up, a straight line --
Q. So you're saying if there was a change in the reading?
A. A change or a baseline, I'd have told the anaesthetist.
Q. Yes. What about the level at which the reading was being measured?
A. Well, usually we put the transducer so it was level with the midline of the patient, laying flat.
Q. I really meant about the measurement, the figure, the CVP figure.
A. Mm-hm.
Q. For example, if the CVP figure initially, when you set it up, when it was connected to Adam was very high, is that something that you would have noticed and mentioned or did the anaesthetist deal with that alone?
A. The anaesthetist would deal with that. He'd be watching the monitor, especially with the first connection. He would see what's going on as it gives him a baseline.
Q. Do you recall any discussion about CVP during Adam's surgery at all?
THE CHAIRMAN: He doesn't remember Adam's surgery, Ms Comerton.
A. No, as I say, I don't remember much about the thing at all, to be honest.
MS COMERTON: Yes. If we now go to 011-002-006. This is a statement from Dr Taylor, the consultant anaesthetist.

If we go to the second paragraph, it's really what I want to draw your attention to:

"On measuring the CVP, the initial pressure reading was 17 mm Hg. There were both cardiac and respiratory patterns to the waveform, confirming correct intravascular placement ... However, from the pressure reading, I concluded that the tip of the line was not in close relation to the heart (later confirmed by X-ray). I therefore used the initial reading of 17 as a baseline."

Then if we go to your police statement at 093-014-046. About five lines down you have said:

"Then I used to switch the tap from atmosphere to the patient. I used to tap the transducer looking at the monitor and, if it was working, I could see a corresponding waveform on the monitor. I then lined the transducer with the patient's heart by line of sight or sometimes with a spirit level. Then everything was zeroed."

If I stop there. So in the first statement, Dr Taylor had said that there were both cardiac and respiratory patterns to the waveform and he took that as confirming correct intravascular placement. If you had seen a waveform when you were setting up the CVP in this way, would you have been happy that it was measuring

things accurately?
A. Yes. Yes, I would. As far as I was concerned, when I've checked it out, everything was working, everything was patent.
Q. And you have said in that police statement that you would have lined the transducer with the patient's heart by line of sight or sometimes with a spirit level.
A. Yes.
Q. How would you usually have used a spirit level to line up the transducer?
A. Well, what we had -- we had an 18-inch -- I suppose it's a 18-inch ruler with a very small spirit level taped to it. And we would line that up with the midline of the patient, with the transducer. And when you get the -- set it up -- when you set the bubble up to level, when the bubble was in the middle, that's in line. Everything was a straight line. And then we attached that to the ether screen when it had zeroed -- and then every time the patient was moved, the table was moved up or down, the baseline would stay constant.
Q. Because the ether screen was attached to the table?
A. Yes.
Q. So for example, if the operating table had been raised by 5 or 6 inches --
A. The transducer would have been raised the same amount of

time [sic] because it was still in line with the patient.

Q. Would that have had any effect on the CVP measurement?

A. Yes, it would have had a slight anomaly because if you raise somebody up, it's going to have a change in the waveform.

Q. Yes.

A. But it would have zeroed itself out and gone back to what was the original waveform before it was moved.

Q. When you say "it would have zeroed itself out", is that because you'd have zeroed it or because it was self-regulating?

A. No, it would zero itself. It would do it itself.

Q. If we could go to Dr Coulthard's report, please, for a moment. It's at 200-019-227 and 228, please. This is a report from one of the experts for the inquiry, who gave evidence about CVP lines and the difficulties that can be encountered when trying to set up and measure a CVP.

A. Mm-hm.

Q. There's a photograph there with a bedside scenario. You have indicated that you would have used an 18-inch ruler. Can you indicate where that ruler then would normally have been placed compared to what's in the photograph?

THE CHAIRMAN: Could we blow up the photograph please?
A. That's about right. That's about the midline, what they call the midline.
MS COMERTON: And you refer to the ether bar, Mr Shaw. Does that photograph show an ether bar anywhere?
A. No, because that is not an operating table. That is a theatre -- that is a bed.
Q. I realise that.
A. Well, there's a difference.
Q. Is that --
A. That picture doesn't work with the ether screen.
Q. With the theatre situation? Thank you. If we go then to the bottom of page 227, it's the last five lines where Dr Coulthard talks about calibrating the CVP measurement device. He says:

"Most texts instruct the operator to calibrate the CVP measurement device to read a pressure of zero in relation to the atmosphere at that horizontal level. Under a pressure transducer, this process of zeroing is achieved by briefly closing the tap connecting the device to the patient's line and opening it instead to the atmosphere while it is fixed at the correct horizontal level and then closing that port and reverting back to the patient line connection. If the patient's position is moved, then a re-zeroing manoeuvre

has to be repeated."

Do you agree with that description?

A. In the way it is, yes, but it bears no relationship to what we did in the theatre. Sorry, it doesn't bear any relationship.

Q. Could you tell us then how what you did in theatre was different?

A. Because we attached the transducer to -- as I said before, you attach the transducer to an ether screen, which is attached to the table. You zeroed it with the patient's midline -- roughly what it is there. You zero the transducer and attach it to the ether screen and clamp it to the ether screen so everything is, what I call kosher. Everything's in a straight line. And anything other than that is the -- the transducer ... If the patient is moved up or down the table -- not horizontally, up and down -- the transducer stays level with the patient. So therefore, it will correct itself as you're going up or down.

Q. I would like to move on then to page 228 and get your comments on some of the statements of Dr Coulthard. Dr Coulthard identifies some difficulties in measuring CVP, so in the first paragraph he says:

"In PICU settings, for example, the transducer is sometimes actually taped to the child's chest wall

directly."

Was that the practice in the Children's Hospital?

A. No.

Q. "However, in many other situations, such close proximity is not convenient, and the transducer needs to be zeroed while it is physically some distance from the patient."

In Adam's case are you saying the transducer was actually close to Adam because it was attached to the ether bar which was attached to the operating table?

A. Correct.

Q. Thank you. He then talks about using a long spirit level and a drip stand, but you're saying that isn't relevant to Adam's case?

A. No.

Q. We then go on to the second paragraph where he talks about other difficulties. He says:

"There is plenty of room for error in using a DIY-type spirit level. First, there is the problem of whether the horizontal point at the child's end was correctly aligned since Adam would have been under sterile towels during his time in theatre."

Would that have been an issue for Adam during the paediatric renal transplant surgery given the way you have described the CVP set up?

A. No. It wouldn't be relevant, to be honest.

Q. And that's because the ether bar was attached to the table, so everything was horizontal?
A. That's right, yes.
Q. "Secondly, there is the question of whether the operator using the spirit level was competent at ensuring that the bubble was correctly aligned between the two marker lines, rather than perhaps being lined up with the midpoint with [sic] the line."

What's your comment about that, Mr Shaw? Was there a risk of error in correctly aligning the bubble between the two marker lines?
A. No.
Q. Why was that?
A. Because you'd have to really have to -- the point near the patient ... Because the patient end of the ruler was touching, right, the patient --
Q. Yes.
A. -- so it was a steady area.
Q. Thank you. Then, in the last paragraph, he suggests that:

"A common difficulty is which edge of the spirit level was used as a reference point. For example, if the operator held the patient's end of the level lined with the correct anatomical point up with the top edge of the spirit level while the second operator, who was

a metre away at the other end of the spirit level, lined up the transducer with the bottom edge of the level, then the transducer would be too low by the width of that particular spirit level."

You have described a ruler -- an instrument like a ruler with a spirit level taped on top. What would the width of the rule have been? He talked about a number of centimetres, possibly. Would it have been a very thin ruler, like one that you would see in a classroom?

A. It would be a thin ruler, yes.

Q. So your evidence is that there wouldn't be very much difference?

A. No, because I was the one who was doing it. There wasn't two people involved; it was just one person involved.

Q. Perhaps we could now refer to the CVP trace. It's at 094-037-211. It's the bottom trace, Mr Shaw. I'm sure you're familiar with it. So Adam's surgery, he was brought to theatre at 7 o'clock in the morning and the trace then begins just before 7.30 and runs to just before 11.30; do you that?

A. Yes. I see it.

Q. The flat line that began just before 7.30 and continued up until just before 8, can you explain that please?

A. The flat line, as far as I can make out, that was me making sure everything was straight and everything was patent and ready to attach to the patient.

Q. And after that, there appears to be four occasions on which the reading drops down to zero. Why would that have been?

A. I have no idea, to be honest.

Q. Is that what happens when you zero the transducer: the CVP reading goes down and then comes back up?

A. That's correct, yes. The transducer is shut down to the patient and then open to atmosphere. Therefore, it would zero.

THE CHAIRMAN: Is that an unusual trace?

A. I don't know the circumstances why, you know --

THE CHAIRMAN: I know you don't, but what I'm asking is: is it unusual to see that number of re-zeroings?

A. Between that particular period of time? Yes, I see what you mean --

THE CHAIRMAN: It's between about -- [OVERSPEAKING]

A. -- and 10 o'clock, yeah. It is a bit, yes. I'm not quite sure, to be honest, why.

MS COMERTON: Would you normally re-zero the transducers very soon after setting them up as has been shown on this trace? So the first zeroing seems to have occurred just before 8 o'clock.

A. Mm-hm.
Q. Is that standard procedure to carry that out very early on?
A. Yes, because if you attach to the patient you want to make dead certain that everything is patent and working properly.
Q. Yes. Would it indicate any concern to you if you were zeroing at 8 o'clock in relation to the level of the reading?
A. No.
Q. There is another drop then around 9 o'clock. Would it be normal practice to re-zero around that time after an hour or would there have to be a reason for that?
A. There might have been a reason for it. I don't know if the anaesthetist saw something on the screen and he wasn't dead sure about the CVP and wanted it re-zeroed.
Q. Yes. And again, there seems to be another zeroing between 9 and 9.30, maybe at about 9.15?
A. That could have been a surgical anomaly.
Q. Would the surgeons ask for the CVP transducers to be zeroed on occasions?
A. No, but there would be talk between an anaesthetist and a surgeon about what is going on, because if the patient's pressure drops, the first thing an

anaesthetist is going to say is, "what's going on inside?", and vice versa. The surgeon will look at a patient and say," There's something not right". He'll have a word with the anaesthetist.

Q. Yes. And if you look at the zeroing then, the next one occurs about 10 o'clock. Is it evident from that trace as to why the zeroing might have occurred at 10 o'clock?

A. It does seem to be a sudden drop, but why I don't know.

Q. Okay. I'd like to refer you to a statement, please. It's two pages, if we could have them together. 093-027-072 and 073. This is the police statement from John Wilson, who was the chief medical technical officer for anaesthetics, theatre and intensive care for the Royal Group of Hospitals. Would you have known Mr Wilson?

A. Yes.

Q. And he made some comments about the trace. The first one is on page 72 and it starts:

"I note the calibration is checked within 15 minutes, again at 0900 hours, again at 9.15 hours and again at 1000 hours. In the latter two cases, more time was taken in checking the calibration. I note in each case that the trace returned to almost its previous reading and, between calibrations, the nature of the trace is as I would expect to see from a functioning

transducer, although the levels which I see is elevated."

Do you agree with that, having seen the trace?

A. Yes.

Q. Why would more time be spent calibrating at 9.15 and 10 o'clock?

A. I don't know.

Q. What sort of reasons would cause you to take longer to calibrate?

A. Maybe because the anaesthetist asked for it. He wasn't quite sure what was going on, so he needed to make dead certain that everything was working.

Q. And would you have been involved in those re-zeroing exercises as the technical officer?

A. Yes.

Q. With the anaesthetist?

A. Yes.

Q. If we go on then:

"I also note that the CVP trace rises in correspondence with a rise in the main arterial pressure. I see no evidence from the trace that the transducer was faulty."

Do you agree with that analysis?

A. Yes.

Q. Can you usually tell from the trace if the transducer is

faulty?

A. Usually, yes.

Q. And how would you know?

A. Well, if you have too many anomalies happen, too many things happen with the transducer, especially if you have a drop in pressure and you cannot account for it, usually that ends up to be a faulty transducer.

Q. If we move on to the next page:

"In my experience, once a transducer had successfully zeroed and been calibrated, it was very unlikely to thereafter prove faulty."

Is this consistent with your experience, Mr Shaw, as a medical technical officer?

A. That's correct.

Q. The next comment:

"If during an operation, there arose a doubt about the accuracy of the reading produced by a transducer, there are a number of steps which could have been taken."

He goes on to describe them:

"Firstly, if there was a steady arterial pressure, so that there were no concerns about the patient, it would be possible to switch the line from the CVP transducer to the monitor with the line from the arterial pressure transducer to the monitor, open both

lines to atmosphere to reset zeros in both, then recalibrate both and examine the readings produced. This procedure would take about one minute. Having done this, if the new CVP reading was the same as what had been seen previously, that would demonstrate that the monitor is functioning properly. If there is a problem with an elevated CVP reading, this would confirm that the problem now lies with the transducer or with the patient."

Do you accept what Mr Wilson is saying there?

A. Yes.

Q. And then if I could just move briefly to the second step:

"As a second step, I would remove the suspect transducer and replace it with a new one. The transducers used at that time and up to the present day were disposable to this was easily done. When the new transducer is attached, it must be zeroed and calibrated and a new reading is produced. If this reading is comparable to the one previously obtained, then you have eliminated the monitor and the transducer as causes of the high reading, and the problem is confirmed to lie within the patient or catheter. To replace the suspect transducer with a new one and to have the new one functioning would take about a minute."

Do you agree or disagree with that?

A. I agree with what he's saying, but the minute -- I think it takes more than one minute.

Q. How long does it takes?

A. I don't know because we're not on a stop clock. I don't really know.

Q. Is it a fairly brief period?

A. It is fairly brief, yes.

Q. I'd like to ask you then about the printout from the CVP monitor. The trace that you saw there, if we go back to it briefly, 094-037-211, is that the printout that you get of the CVP readings from the monitor?

A. Yes.

Q. So it's a compressed printout; is that right?

A. That's correct, yes.

Q. And when is that printout usually produced?

A. It's produced as required. You can ask the printer to print it out as you want it.

Q. Does it always print out a compressed trace or can it produce a real time one?

A. You can do a real time one if you asked for it, yes.

Q. If you were producing a real-time trace for surgery of that length of time, would it be voluminous?

A. Yes. You would have -- yes.

Q. So was the normal practice to produce the compressed

trace?

A. Yes.

Q. Thank you. And what is usually done whenever this printout is produced by the monitor? What's done with it?

A. It is taken from the monitor and attached to the anaesthetic sheet.

Q. Does anyone write anything on the trace?

A. Usually the anaesthetist, if there's anything -- anomalies, he'll write in there a brief statement or words of what was going on.

Q. Would they sign it as well?

A. Possibly. I wouldn't say for certain.

Q. And when would that CVP printout be placed on the patient's medical notes?

A. There and then because if it's attached to their sheet, the sheet will go with the -- to the -- with the documents.

Q. Yes. There's two printouts I'd like to refer to. So the first one is 058-008-024. You'll see there's a handwritten note at the top of that. This isn't the CVP trace, but it's a printout --

A. Yes.

Q. -- with it. The note is:

"This is a true record of operation."

And there's a signature that looks like Dr Taylor's signature.

A. Yes.

Q. Would that have been a normal note made on a printout like that?

A. Yes, I believe it would be.

Q. Okay. And if we could go to the CVP one at 058-008-023. This is the same CVP printout and, unfortunately, the note at the top of the page has been cut off on the copy, Mr Shaw.

A. I see, yes.

Q. If you accept for a moment that the note says:

"This is a true record of the operation."

And again there's a signature from what looks like Dr Taylor, again would it be normal to sign this particular printout in that way?

A. Well, any printout like that would be signed, especially on a major case.

Q. Yes. If we move then on to people who would have been in theatre during a renal transplant operation.

You have indicated that there would be a consultant anaesthetist, a medical technical officer, possibly a trainee anaesthetist. Other than the surgeons, who else would normally have been in theatre during surgery?

A. An assistant surgeon --

Q. Yes.
A. -- scrub nurse --
Q. Yes.
A. -- and possibly one runner. The second nurse would be the runner.
Q. Yes.
A. That would be a skeleton -- because if it is that time in the morning, there'd be a skeleton staff. But seeing it's going on after 8 o'clock, there's a possibility there was other staff in the theatre as well.
Q. And who would they possibly have been?
A. I don't honestly know.
Q. Would there have been [OVERSPEAKING] --
A. They'd have been nurses, nursing staff.
Q. For example, some witnesses have mentioned an auxiliary nurse might have been there.
A. There could have been, yes.
Q. Would there normally be a third nurse as well as the scrub and the runner?
A. Yes.
Q. What would that third nurse normally do?
A. She's a back-up. Just in case the runner has to go out of the theatre, the scrub nurse will need another set of hands there to have her hand her instruments or things, whatever she needs.

Q. Yes. Did you also act as a second runner during Adam's surgery?
A. Not to my knowledge.
Q. Could we go to your police statement for a moment at 093-014-045?
"During the operation, my role was to assist the anaesthetists in their duties and, if needed, to act as a second runner."
A. That's correct.
Q. So you may have been acting as a second runner?
A. I may have been yes.
Q. Would that be in the circumstances that you have described? In other words, if the first runner had to go out for something, you would have covered?
A. I would have covered, yes.
Q. Okay. I would like to refer you to some documents on that point. If we go first to 058-007-021. This is the blood loss sheet, Mr Shaw, for Adam's surgery on the 27th.
A. Mm-hm.
Q. Staff Nurse Mathewson is recorded on certain documents as the runner during Adam's surgery. Her evidence was that she did not make all of the entries on this blood loss sheet.
A. Yes.

Q. So she said she made the entries -- if you look at the second column, from "20.1", which is about halfway down, down to the bottom of that list. So she says that the entries from "17.6" down to what looks like "15.1" were not in her handwriting. Similarly, in the third column, she said her handwriting began at "160.7" down to -- it looks -- like "361.1", but she didn't write the "50" at the end. That's at the end of that particular list, which is a cumulative total. So there were entries again at the top of "7.6" down to "140.7" that she says she didn't write. Is it possible that you may have made those entries in your capacity as second runner?

A. Not to my knowledge, no.

Q. I realise you don't have any recollection of this.

A. No, I ... No.

Q. Is that your handwriting?

A. Not really. To be honest, it's too neat. No honestly, no. To be honest, I'm a lousy writer. I scrawl all over the place.

Q. Is that something you might have been asked to do as a technical officer if the first runner was not in theatre and --

A. It's possible, yes.

Q. -- somebody needed to record the figures for a short period of time.

A. Yes, it's possible.
Q. If it wasn't you, who else might it have been?
A. I don't know.
Q. Similarly, if we could go to reference 058-007-020. This is the swab count sheet for Adam's surgery as well. Again, Nurse Mathewson has indicated, "I made some entries", but for example on the left-hand side about two thirds of the way down, she said she did not write "18", "19" and "23". As a medical technical officer, could you have completed those entries on that sheet?
A. I could have done, but I didn't.
Q. Why do you say you didn't?
A. Because I have no recollection of ever working the swab count.
Q. Thank you.
THE CHAIRMAN: Ever? Just never, full stop.
A. Never full stop. I have no recollection of doing a swab count.
MS COMERTON: Had you done a blood loss count on occasions before?
A. On occasions, yes.
Q. Thank you. Mr Shaw, you have said that you wouldn't have been involved in fluid management. Would you have had any knowledge of the fluid management in November 1995 or any dealings with it at all?

A. No.
Q. Thank you. If we could now go to the blood gas machine serum sodium concentration result at 9.32. If you were in the theatre at 9.30, do you accept, Mr Shaw, that you would likely have been the person to take the blood sample to intensive care and test it on the blood gas machine?
A. Yes.
Q. Do you have any recollection of doing that or coming back to theatre with it?
A. No.
Q. If Dr Montague was absent at that particular time, then would you say it must have been you who did that?
A. It's possible, yes. I can't ... As I said before, I can't state categorically.
Q. Yes, I realise that. In November 1995, were you aware of any concerns in relation to the accuracy of the blood gas machine in providing electrolyte results?
A. No.
Q. If we could go to your witness statement at 106/2, page 2 and also put along sides that page 3. So the question is at the bottom of page 2. Mr Shaw, this is your witness statement to the inquiry. You're asked whether you were aware of anyone's concerns or you had any about the accuracy of blood gas for serum

electrolytes.

Your answer was:

"I was not aware of anyone's concerns in relation to that."

But you said:

"Anaesthetists relying on the results would have been aware that the addition of heparin to the serum sample would have altered serum electrolyte readings."

What was your understanding as to the degree of alteration to the electrolyte readings when heparin was added to the sample?

A. Sorry, I can't state that because I wouldn't know.

Q. Well, you clearly were aware that anaesthetists had knowledge that it would have changed the reading.

A. Yes.

Q. So did you have any knowledge beyond that?

A. No, I didn't know. I just know the anaesthetist knew about it, but I knew nothing about that level.

Q. And you have suggested --

THE CHAIRMAN: Sorry, did you even know whether the addition of heparin would bring the reading up or lower it?

A. No.

MS COMERTON: If we could then go to witness statement 008/2, page 40. It's question 104. This is Dr Taylor's witness statement to the inquiry, Mr Shaw. He has made

a comment, you'll see at the top of the page where he says:

"I would have been aware at this time that although I could rely on the pH, CO2 and oxygen, that the other measurements -- including sodium -- were unreliable. I wasn't an expert in the degree of divergence, except to say that we were continually warned by the medical technician, Dr Tommy Ryan [I think he meant Mr Tommy Ryan] that we weren't to rely on these tests."

And he is asked:

"Who was the 'we' that was 'we were aware'?"

And he said he and the other paediatric anaesthetists formed that group.

At (b) he says:

"I was warned since my appointment in February 1991 ..."

And when he's asked to identify the other medical technicians that continually warned him and the other anaesthetists. He says that you and Mr Shaw would have done so; do you accept that?

A. Yes.

Q. And how would you have known in what terms to warn the anaesthetists?

A. Well, I'm not dead certain, but I think there was a protocol put out or a statement put out about that

particular blood gas analyser -- not that particular, but blood gas analysers having problems, having anomalies in their readings, especially in serum. So probably what we would have done is passed that information on, probably in written form. We would have got them from -- I don't know who, whatever the appropriate people were. I don't know what they're called now, probably Health and Safety, but I don't know what they were called then. We would have passed that on.

Q. You, as the technical officers, would have passed the concerns on to whoever you regarded as the appropriate people?

A. I think we would have had a printout of that particular protocol.

Q. Do you recall the name of the protocol?

A. No.

Q. And do you recall the time when that protocol was produced?

A. No, I don't.

Q. Do you know whether it would have been before or after November 1995?

A. I think it might have been before, to be honest.

THE CHAIRMAN: Dr Taylor is saying that if you look at paragraph (b) at the top of the page, that he'd been

warned about it since he was appointed in February 1991.
A. Yes.
THE CHAIRMAN: Does that fit in with your recollection that this was an ongoing issue then?
A. Yes.
THE CHAIRMAN: Was that just the way the blood gas analysers were, that was the best analyser you could get, but you needed to be a bit careful about how much you relied on it?
A. I think it was the best at the time, yes.
MS COMERTON: So you have indicated that you didn't have any knowledge at that time of whether the sodium reading would have been increased or decreased by the heparin; is that right?
A. That's right.
Q. And if I could then turn you to the transcript of 20 April, please, Dr Taylor's transcript, pages 102 and 103. This is Dr Taylor's evidence about this issue. It starts at line 21. He's asked:

"Is it your continued view that the readings from a blood gas analyser are so inaccurate that you shouldn't rely on them?

"Answer: I think my concern about it was that we used a drop of heparin or a volume of heparin in with the blood sample to prevent clotting inside the machine

and dilution and the fact that it was whole blood we were analysing instead of serum sodium, and the quality control of that blood gas analyser was a concern to me and to the department."

So if we could take that in smaller sections. Do you recall any concern about the fact that there was dilution of the sample and that it was whole blood rather than serum sodium being tested?

A. No.

Q. Generally?

A. Generally, yeah, well, you would take whole bloods because you usually take it from the arterial line.

Q. Do you recall any concern around that time about quality control of that type of blood gas analyser?

A. As far as I recollect the quality control, we used to do a quality control every day on that particular machine with samples sent by the firm, quality control samples.

Q. Yes. He then goes on at the top of page 103 to say:

"And following Adam's death, that [and I think he means by that the blood gas analyser] was replaced and since Adam's death, or certainly since the new analyser was purchased following Adam's death, we no longer used wet heparin, we no longer added heparin to a syringe before we took a sample. We have continued to use what's called dry heparin crystals ..."

Do you agree or disagree with that?

A. I agree.

Q. Do you recall the blood gas analyser being replaced after Adam's death?

A. No, I don't. I do know it was changed but I don't know when.

Q. And do you agree that there was a change to dry heparin crystals?

A. Yes.

Q. Okay. Mr Ryan in his statement mentions a change first to lithium heparin, which he says was in vials, and then a change to pre-heparinised dry lithium syringes.

A. That's correct.

Q. His evidence was in his statement that the change to the syringes was in or about 2000. Do you have any recollection of that?

A. I do know they changed, but I couldn't honestly remember the date.

Q. Okay. Once Adam's wound was closed during the course of the surgery, what was your role in theatre as the technical officer at that point?

A. Well, my ... Nothing at the moment because even though the wound was being closed, you still have anaesthetised the patient so you're still looking at the vital signs and checking everything was going all right.

Q. Would you have assisted in waking Adam up?
A. No.
Q. Who would have done that?
A. That would be the anaesthetist.
Q. Would the nurses assist?
A. No.
Q. Just the anaesthetist?
A. Just the anaesthetist.
Q. Thank you. If we can go to witness statement 106/1, page 4, question 2(d). This is your witness statement, Mr Shaw. You're asked about your responsibilities at the end of surgery including in terms of the equipment in theatre:

"My responsibilities would have been to clean and check all of the machinery and generally make sure that the machinery is ready for the next operation. The entire operating theatre would be cleaned exhaustively and the machines checked and replenished and left in full working order."

Would you have done all those tasks as the technical officer?

A. Well, I would have assisted in all of them.
Q. Okay. You also indicate at 2(e) -- you were asked at what time you left. You say:

"I don't know when I left, but it would have been

between one and two hours after the operation concluded."

A. It's possible but, as I said before, if there was another operating [sic] going on and there was nobody else to cover, I would have stayed.

Q. Okay. The other surgical list, I think, started just after 2 o'clock.

A. It's possible. I wouldn't --

Q. And Adam was transferred to intensive care approximately around 12.

A. Yes. So I would have been at -- helped in the transfer of Adam to the ICU and if there's another operating [sic] going on, I would have ... Unless Tommy come in and did it, I'd have stayed.

Q. Okay. You have indicated that you would have been involved in the transfer of Adam from theatre to intensive care.

A. Correct.

Q. Would you have done that first and then come back to clean and --

A. Yes.

Q. -- sterilise the operating theatre?

A. Yes.

Q. And in terms of who was involved in the transfer, you have indicated it would be the anaesthetist, a nurse

and yourself. What type of nurse would normally be involved; would it be a theatre nurse or intensive care?

A. No, I think it's possible it would be an ICU nurse.

Q. There wasn't a great distance between theatre and intensive care; isn't that right?

A. Well, that depends on where you went. I'm not being funny, but it depends on how you went there. If you had to take a bed, you had to go out of the main corridor. If you remember the map, you had to go out of the main corridor, up to the main corridor, left and left again to get into the ICU. So yes, it was a fair way.

Q. Would the normal practice have been for an intensive care nurse to come round to theatre?

A. Especially in the major -- yes, if it's going to ICU, yes.

Q. And would all of Adam's notes travel with him from theatre to intensive care; was that the normal practice?

A. Yes, usually they're put on the bed with the patient, yes.

Q. After your involvement in the surgery, Mr Shaw, did you discuss Adam's case with anyone at any point in time?

A. No.

Q. Why was that?

A. Why should I?

Q. Well, a renal --

THE CHAIRMAN: Because Adam had died.
A. Sorry --
THE CHAIRMAN: It's not suggested you would have been in any way to blame, but it's saying that if a child dies unexpectedly, that's the sort of situation in which outsiders might think that there would have been some discussion afterwards.
A. Not really, because you have the theatre, you have to think of ... Adam goes to ICU, therefore he's out of our regime. We go back to theatre and set up the theatre and you've got to rig it up for the next case.
THE CHAIRMAN: Okay.
A. It's not being like -- you just do it that way.
THE CHAIRMAN: Okay.
MS COMERTON: One other issue, Mr Shaw. You'd mentioned a protocol. Could we refer to witness statement 106/3, please, page 11. This is a document that we've been provided with about blood gas measurements. You'll see that it's dated 17 October 1989.
A. Yes.
Q. And the summary states:
"A recent incident has indicated that the use of blood gas analysers by untrained staff, without adequate management supervision of the equipment and without the use of quality control procedures, can give rise to

misleading results, having the potential to affect adversely the treatment of patients."

Is this the protocol that you were referring to?

A. I think so, yes.

MS COMERTON: Thank you. I have no further questions.

THE CHAIRMAN: Any other questions from the floor?

Mr McAlinden? No?

Mr Shaw, thanks for your time. I'm glad you were able to sit it out.

(The witness withdrew)

Ladies and gentlemen, that brings today's evidence to an end. Tomorrow's evidence will be given by Dr Cartmill and that, I don't anticipate, will take very long tomorrow morning. By the end of this afternoon, we will issue a note about how we see the way forward after this week for the resumption on 11 June. If we get that out to you this afternoon, we can discuss anything arising from it tomorrow afternoon. Thank you.

(12.52 pm)

(The hearing adjourned until 10.00 am the following day)

I N D E X