Friday, 18 May 2012

(10.00 am)

(Delay in proceedings)

(10.15 am)

Housekeeping

MS ANYADIKE-DANES: Mr Chairman, just before you start, I wonder if I could announce two things that I said during the opening that I would release. One of them is a table of the documents that the inquiry has compiled to date and that were referred to in the general opening and also in Adam's clinical opening. That table can be found starting at 306-055-001. The other is a document that I had also promised we would release. We had released a schedule of the list of persons involved in Adam, which gave all their depositions to the PSNI, inquiry witness statements and also indicated whether we were going to call them or not.

I said, as we approached the end of clinical, I would re-release that, indicating those people whose statements or reports we were relying on without calling. So what this document does, which starts at 303-001-001, is it takes that schedule and it indicates who was called, who was not called and therefore we are relying solely on their statements, and also those which we propose still to call.

Hopefully, that is of use. It's what I said I would do and I hope that people find that helpful. If it turns out that there is anything arising from that, then obviously people can contact the inquiry. Thank you, Mr Chairman.

THE CHAIRMAN: Thank you.

DR JACQUELINE CARTMILL (called)

Questions from MS COMERTON

MS COMERTON: Mr Chairman, our first witness is Dr Cartmill.

Dr Cartmill, I would like to confirm with you the statements that you have provided to the inquiry and to the police. First of all, we have your police statement, which is dated 2 May 2006.

A. That's correct.

Q. Then we have your first inquiry statement and that is dated 9 October 2005.

A. That's correct.

Q. Your second inquiry witness statement is dated 20 April 2011.

A. That's correct.

Q. And then your third and final inquiry witness statement is dated 1 August 2011.

A. That's correct.

Q. Thank you. You have kindly provided us with a very detailed CV and I'd like to just draw some points out of

that, if I may. First of all, you qualified in June 1994; is that right?

THE CHAIRMAN: Just one moment.

MS COMERTON: I can refer to it, actually. It's reference 306-033-008, if that's of assistance. It's a quite lengthy document, Dr Cartmill. I think it's about 30 pages; isn't that right?

A. Yes.

Q. But I'm not going to go through the 30 pages this morning. First of all, you had said you qualified in June 1994; is that correct?

A. That's correct.

Q. And then this page really sets out your initial placements after your qualification. So the document shows that you commenced a six-month placement as an SHO in paediatrics in the Children's Hospital in August 1995.

A. That's correct.

Q. And is it correct that that was your first and only placement in paediatrics?

A. That's correct.

Q. So by November 1995, you had had about four months' experience as an SHO?

A. That's correct.

Q. Thereafter, you then commenced your post-registration

training in obstetrics and gynaecology; that was in August 1996.

A. That's correct.

Q. And you are currently a consultant obstetrician and gynaecologist at Altnagelvin Hospital.

A. That's correct.

Q. And you'd been there since October 2008?

A. That's correct.

Q. Thank you. If we then turn to the events on 27 November 1995. You were an SHO at the time and, as part of your SHO duties, would you have been participating in an on-call rota?

A. Yes.

Q. When you were on call at the weekend, would you normally have been on call for 24 hours or 48 hours? What was the normal period?

A. I don't fully remember. I think we probably -- if you were doing a weekend, you either did the day shifts or the night shifts, so it was usually a 12-hour shift.

Q. And do you have any recollection of coming on duty on Sunday 26 November?

A. No.

Q. What time would the shift normally have started on a Sunday, typically?

A. 9 o'clock in the morning.

Q. So then when would it normally end?
A. 10 o'clock at night.
Q. Do you recall coming off duty that evening on 26 November?
A. No.
Q. If we go to your witness statement 003/2, page 4. At question 1(d) you say:

"My role as a senior house officer in paediatrics would have been to take preoperative bloods in preparation for possible renal transplant and then, providing I was still on duty in the hospital, to formally 'clerk-in' the patient once the decision to proceed with the renal transplant had been made."

We know there's a note of Adam being clerked-in at about 11.30 on the 26th and you didn't make that note; isn't this right?

A. No, I didn't make that note.
Q. So your involvement was really up until 10 o'clock that evening?
A. Yes.
Q. At that stage, do you recall whether a decision had been made to proceed with the surgery or not?
A. I don't recall.
Q. If I could turn then, Dr Cartmill, to a document at 058-002-002. This is a note that Dr Savage has claimed

that he wrote when Adam came in to be prepared for the renal transplant. Do you recall seeing that note?

A. No.

Q. You'll see at the top right-hand side "Jackie" is written down and Dr Savage said he presumed that must have been a reference to you.

A. I presumed that as well.

Q. Yes. Do you recall speaking to Dr Savage on 26 November about Adam?

A. No.

Q. But do you accept that it was very likely you would have spoken to him about Adam?

A. It was highly likely.

Q. Did you have any experience of preparing a child preoperatively for a paediatric renal transplant in November 1995?

A. I don't recall my being involved in any other cases.

Q. Either before or after the 27th?

A. Either before or after, but -- I don't remember.

Q. Would you accept it was, at that time, a fairly infrequent occurrence in the Children's Hospital for a paediatric renal transplant to take place?

A. Yes.

Q. So if I were to suggest to you that, had you been involved in an unusual patient, that it might have been

more likely you would have recalled that?
A. Yes, but it depends what you mean by "involvement". Signing a blood result, is that involvement in a case?
Q. You had contact with that patient for a period of time as an SHO.
A. Well, it was so long ago I can't remember. I'd have to see what renal transplants took place in the six months that I was there and go through the notes and see if I had had any involvement.
Q. We know there was another paediatric renal transplant earlier in November 1995 on a three-year-old child. Do you have any recollection of being involved in that?
A. No.
Q. Can I ask you, Dr Cartmill, what exactly do you recall about being on duty that evening on 26 November?
A. I don't remember that evening.
Q. Do you remember anything at all?
A. No.
Q. So is your recollection based purely on the documents that you've had a chance to look at?
A. Yes.
Q. Can you tell us whether, as an SHO in the Children's Hospital at that time, you would have had any experience during that four-month period of caring for renal patients on Musgrave Ward?

A. I would have been involved with renal patients, but I don't have any direct recollection of them, of any cases.

Q. Okay. If we stay with this note for a while. At the bottom of the page there's a reference to X-rays and "Get all old X-rays."

As an SHO, would that be something that would fall within the tasks that you'd be carrying out?

A. (Pause). Yes.

Q. What would that require you to do if Dr Savage or Professor Savage wanted the X-rays obtained?

A. You'd have to contact the X-ray department and ask them for the old X-rays.

Q. If we then could go to the note that you made at 9.30, that is reference 058-035-144. Is that your signature at the bottom of the note?

A. It's about two-thirds of the way down the page, yes.

Q. And the start of the note is dated 26 November 1995.

A. Yes.

Q. It's timed at 9.30. Would it have been likely that you would have made it at 9.30 or could you have made it earlier or later than that?

A. It would have been around that time. It would probably have been either before or after I took the bloods from Adam.

Q. I know there's a formal clerking-in note later on. Was this an interim note really to record what had been happening to Adam when he came on the ward?
A. I have written that he attended ward for possible renal transplant and I think, on the previous note from Professor Savage, he made reference to another child who had also attended the ward.
Q. Yes. The evidence that we've been given is that cross-matching tests had to be carried out before any decision was made as to who and whether transplant surgery would proceed with. So if we look at this note, Dr Cartmill, there's a list of matters that you've written down and then there's a tick beside each of them. Whenever you were making this note, was this something that you would have known to do or would you have been instructed to do this?
A. I think again, if you refer back to the page from Professor Savage, this reflects what he has requested.
Q. Yes. Maybe we could put the two pages up together. Would that be possible?
THE CHAIRMAN: It's 058-002-002.
MS COMERTON: For example, Professor Savage had written down:

"Full blood picture."

And that's the first thing that you've written?

A. Yes.
Q. He has also written "coagulation screen" and then there's a note, but that appears to relate to the other child. And you have written "coagulation screen" next. So reading that, would you say that you've simply been instructed to carry out a number of tasks?
A. Yes.
Q. So the first five tasks are the ones on Professor Savage's note that you appear to have been dealing with in your handwritten note.
A. Yes.
Q. Professor Savage had also written down on his note:
"Fluids. Adam Strain erect IV. Give maintenance rate."
A. Yes.
Q. And the equivalent note on yours is to have IV fluids at 75 ml an hour maintenance.
A. Yes.
Q. It's not clear from that note when that maintenance was to commence. Would you normally write down when IV fluids were to start on a note?
A. Yes.
Q. Or if they were only to be for a fixed period of time, would that be recorded as well?
A. Yes.

Q. And do you know why that wasn't written in your note?
A. No, but at that time the decision -- as you have said, the decision had not been made as to whether Adam was to receive the kidney.
Q. You --
A. And, sorry, it would also depend on his blood results.
Q. You have written down that the fluids were to be administered at 75 ml an hour.
A. Yes.
Q. What was the likely basis for you recording that particular rate of administration for Adam?
A. I don't remember the fluid calculations from my time in paediatrics, but I did find a paediatric prescriber from my time -- from working at that time.
Q. You have provided a copy of that this morning. So if we look at reference 306-056-002, this is an entry in the paediatric prescriber under, "Endocrine system, diabetic, ketoacidosis"; is that right?
A. Yes.
Q. Did you use any of the information on that part of the prescriber to inform your fluid calculation that evening?
A. I don't remember, that evening, how I prescribed the fluids, but I can only refer to this document. That would have been used to guide my practice at that time.

Q. What part of the entry there would you have used?
A. Aged 3 to 5 years, volume 90 ml per kilogram in 24 hours.
Q. Okay. In terms of the choice of fluid, the other reference you have given us is 306-056-003. On the left-hand side is "Intravenous fluids". It reads:

"The initial IV fluid used for normal maintenance requirements is ..."

And at (b) it is:

"... 0.18 per cent sodium chloride in 4 per cent dextrose for infants and children."

Is this something you typically would have referred to to gauge what kind of fluid you would have administered or prescribed?
A. Yes.
Q. Thank you. At that point, Dr Cartmill, would the consultant normally tell you the rate of administration or the choice of fluid when you were an SHO, or is that something that you were expected to work out on your own?
A. It depends on the complexity of the case.
Q. Well, in this type of a case where there's major surgery possibly happening later on that evening, would you have expected to have been given specific instructions about type of fluid and rate of maintenance or is that

something an SHO could probably deal with independently?
A. In a case like Adam's, I would probably have expected to have had instruction from more senior staff.
Q. Okay. One matter that I had wanted to mention to you was that you had previously been involved with Adam Strain in the Children's Hospital shortly before 27 November; isn't that right?
A. Yes, I don't have any memory of that, but when I reviewed the notes on the inquiry's website, I found another entry where I had been in contact with Adam.
Q. Yes, and we could just go to that. It's two pages. 058-035-130 and also 129. If they could be put up side by side. Thank you.
So that note starts on the left-hand page on 18 October 1995 and then finishes towards the lower half of the right-hand page and there's a signature; do you see that?
A. Yes.
Q. Is that your signature?
A. It is.
Q. So is all of that note on 129 yours and the first two thirds on 130 your note?
A. All of 130.
Q. And the note records that Adam was for orchidopexy and insertion of gastrostomy button.

A. Yes.
Q. So were you doing a clerking-in note for Adam when he was coming in for those two procedures?
A. Yes.
Q. And would you say that that note was typical of an admission note at that time?
A. Yes.
Q. One of the things I wanted to ask you about was, at the end of the note, you have a plan, which sets out what the anaesthetist has been told to give in terms of medication and then other things that had to be carried out on the right-hand side; do you see that?
A. Yes.
Q. And would that be a normal part of a clerking-in note that there would be some kind of idea of what was going to happen next?
A. I would think in this case, because of Adam's complex condition, that there were more specific instructions for him compared to a child who didn't have a background of kidney disease.
Q. Yes, but, "Would you normally expect the element of plan to be included in an admission note?", is my question to you.
A. Yes.
Q. So it's to remind you what has to be done?

A. Yes.
Q. But also if someone's coming on later in the day on duty, they will also have a clear picture of what remains to be done or what they have to follow up?
A. Yes.
Q. Okay. Thank you. If we could go briefly to the clerking-in note for Adam just to compare it on that point. It's at reference 058-035-131 and 132, if they could be brought up.

It's not your note -- it's Dr O'Neill who has signed this note -- and it's recorded at 11.30, which would have been after you had finished your duty.

Dr Cartmill, there is no record here at all of any plan of care for Adam.

MR FORTUNE: Is this a fair question to put to a junior doctor about the contents of another junior doctor's note?

THE CHAIRMAN: I have the point about the comparison.

MS COMERTON: Thank you.

Dr Cartmill, did you have any knowledge of hyponatraemia by November 1995?

A. What do you mean, knowledge?
Q. Would you have been aware of hyponatraemia when you were an SHO at that point in your career?
A. Yes, I would have been aware that it is a condition that

can occur.
Q. Do you recall whether you received any training in that when you were studying medicine or thereafter, prior to November 1995?
A. I don't specifically remember any formal training, but electrolyte disturbances, hyponatraemia, would have been something that would have been part of undergraduate and postgraduate studies.
Q. Okay, thank you.
THE CHAIRMAN: Remind me, where did you go through university?
A. Queen's University Belfast.
THE CHAIRMAN: Was your postgrad also in Northern Ireland?
A. Mostly.
THE CHAIRMAN: Okay.
MS COMERTON: If we could move then on to the protocol for renal transplantation in small children. Were you familiar with the Children's Hospital protocol for renal transplantation in small children in November 1995, Dr Cartmill?
A. I don't remember.
Q. If we could call it up, please. It's witness statement 002/2, page 52. Have you seen this document before?
A. I don't remember.
Q. Do you recall whether this was something that would have

been discussed with you as an SHO, whether in November 1995 or at any other time?

A. I don't remember.

Q. If we go to a transcript, please. It's for 17 April, Professor Savage's transcript. It's page 25. These are comments that were made by Professor Savage about the protocol, Dr Cartmill. There are just a few I would like you to comment on. Page 25, lines 13 to 23. He's asked:

"Question: Am I right in saying that you devised that protocol?

"Answer: Yes.

"Question: When you did, what was your purpose in doing so?

"Answer: The purpose of the protocol was so that if any child came into hospital for a renal transplant, that whether you were a nurse or a junior doctor, or indeed myself, or anyone else involved, that they could look at the protocol and say: this is the standard way that we proceed with the transplant, these are the tests that need to be done when the child comes to the ward, this is the information that we need in terms of biochemistry, blood tests, X-rays, before we proceed to theatre. And it also lays down, for instance, for the junior doctor, what bloods they need to take."

Would you accept that statement?

A. Yes.

Q. But you don't really recall any details at all about using or discussing the paediatric renal transplant protocol?

A. No, because my entry indicates that Adam attended the ward for possible renal transplant. So the decision had not been made when I had contact with him.

Q. Again, Professor Savage's evidence has been that a copy of that transplant protocol would have been placed in a patient's notes when they were admitted to the ward for a possible transplant. So his evidence was there would have been a copy of that protocol in the notes. Have you any recollection of that?

A. No.

Q. If we could go to page 26, please, of that transcript. Then it's lines 16 to 21. Again, where Professor Savage says:

"Question: Was it a guide or did you really expect people to follow this?

"Answer: Both.

"Question: How important did you regard it that people actually carried this out?

"Answer: I think it was important, yes."

If we could go to page 41, please. This is the

point I was making. The first line:

"Question: Was a copy of it placed on Adam's file?

"Answer: Yes.

"Question: When would that have happened?

"Answer: As soon as he was admitted. Every child who's admitted would have a copy of that provided with their notes.

"Question: So it's not when he goes on to the register?

"Answer: No, no, no. In the ward, we would have a renal file and in it would be a transplant protocol. So when someone comes in for a transplant, you would take a copy of the protocol and have it available with the notes or at the nursing station for everyone involved to have a look at.

"Question: And in terms of educating the junior doctors about it -- and, of course, some of these junior doctors, like senior doctors, may never have been involved in a renal transplant at all.

"Answer: Given the numbers that we've just seen, the likelihood is that they wouldn't have.

"Question: Who takes them through it, explains it to them? How does that work?

"Answer: That would probably be the consultant who's there that evening.

"Question: You?

"Answer: Yes."

So Professor Savage's evidence was that he would have taken the junior doctors through the renal transplant to explain to them what had to be done. Were you aware of that practice on the ward?

A. I don't remember.

Q. Okay, thank you. When you were on call, Dr Cartmill, at the weekends -- and I'm talking specifically about Sunday 26 November -- what would have been the usual remit of your responsibility? Specifically, I mean would you have been assigned or allocated to a particular ward or were there a number of you on duty who had to cover the entire hospital?

A. There were several wards in the hospital. I don't remember exactly how the SHO rota -- how many SHOs were on duty, but we would have had to cover several wards. I don't remember exactly how many or which wards as an SHO, and there would also have been at least a registrar, a paediatric trainee, who was also resident in the hospital as well.

Q. Do you recall who the registrar was on duty on 26 November while you were on duty?

A. I don't remember, no.

Q. There has been a suggestion that there was a female

doctor on duty on the evening of 26 November. Can you assist us in finding out who that was?

A. No.

Q. You have said that there were a number of wards. As an SHO on call, would you have been in charge of particular ones?

A. You would have been on call for several wards at any time, so the surgical ward, medical wards.

Q. Did they allocate wards to the SHOs on call? In other words, would you have had two wards to look after while you were on call and another SHO would be assigned to other specific wards?

A. Yes. I don't specifically remember. The only thing that I do remember is that the paediatric intensive care unit was not one of the wards that I would have covered.

Q. Is that because you were a relatively new SHO?

A. Yes.

Q. When you were coming off duty -- and you have said that you believe there would have been a changeover around 10 o'clock that evening; isn't that right?

A. Yes.

Q. Would there normally be a handover between you leaving as an SHO and whoever was coming in to replace you?

A. That would be usual practice.

Q. What was the nature of the information that you would

have been giving in a handover, typically?
A. Any outstanding problems or any expected admissions.
Q. Would you have been dealing with it on a patient-by-patient basis or only in a general way?
A. You would have to hand over instructions if specific patients needed specific actions to be taken, such as to have blood taken or to have blood results looked at or other investigations to be arranged.
Q. And you've also said in your witness statements that there were no other records after 10 o'clock of you having had contact with Adam. Is it possible that you remained on duty, but you were just busy with other duties and you weren't involved with Adam later on?
A. No. I don't have any records of the rota from that time, but I don't think that that's likely. I think that I went off duty at 10 o'clock.
Q. While you were on duty, would you have been supervised by any other clinicians?
A. You would have had the -- as I've said, the paediatric registrar who would have been resident in the hospital.
Q. Yes.
A. And then there would have been consultants on call above that.
Q. Okay. Do you remember Professor Savage being present that evening?

A. I don't remember.
Q. Do you recall at what time Adam arrived on Musgrave Ward that evening?
A. I don't remember.
Q. If we can go back briefly to your note at 058-035-144. If we go to the list of things that were done, you have written down what has to be done and then you have ticked off each of the elements. When would you have ticked off each line? Would that have been done all at the one time?
A. Yes. When I made that note, I would have ticked to indicate that I had taken blood for those tests.
Q. If we go to 093-008-025. This is your police statement, Dr Cartmill, and you set out in some detail exactly what you did. It's about five lines down. You have stated:

"I took blood samples from Adam at 9.30 for full blood picture, coagulation screen, urea and electrolytes, albumin, bone profile, cytomegalovirus, titre and blood group. I requested four units of white-cell filtered CMV-negative packed cells to be cross-matched and was informed by the laboratory staff that whole blood was not available at such short notice."

Were you the first person to take a blood sample from Adam that evening?

A. I don't remember, but I'm the only person that made an entry in the notes to indicate that.
Q. And if someone was taking a blood sample, is that something that would normally be recorded in the medical notes?
A. Not always. It depends on the nature of the blood sample and what the case is.
Q. Would you expect it to be recorded in the nursing notes?
A. I don't know.
Q. Not necessarily? If we could go to 057-010-014. This is the intravenous fluid prescription chart. Can you confirm there your signature is on the right-hand side?
A. Yes.
Q. You have inserted the fluid that you said you chose and the rate of administration into the chart; isn't that right?
A. Yes.
Q. There's no entry in terms of start and finish time, Dr Cartmill. Why was that?
A. I don't remember why I didn't write a start or finish time, but as I've said, at that time it had not been -- when I had contact with Adam, it had not been confirmed that he was to proceed with the transplant.
Q. Professor Savage's evidence was that the cross-matching had to take place and that those results were expected

between 1 and 2 in the morning. So on your evidence, if no fluids were going to be administered before the decision had been made to proceed with the transplant, that would mean that you would only start administering fluids after the cross-match results came through at 1 or 2.

MR FORTUNE: I rise again. This is a junior doctor under the supervision of a senior consultant.

THE CHAIRMAN: Yes. I think the witness was about to say what she can in answer to the question.

A. Also, before administering the fluids, you would need to have Adam's blood results.

MS COMERTON: What actually happened was that the fluids began to be administered at 11 o'clock that evening. Do you have any idea why there was a change?

A. No. I was off duty.

Q. Were you aware of any proposed or provisional time for surgery to start, even though a final decision had not been made as to whether it would proceed?

A. No, I don't remember.

Q. Is that something that you would expect to have been told as an SHO?

A. I don't know.

THE CHAIRMAN: If you were an SHO who was finishing at 10 o'clock, you might not expect to know if the surgery

was going to start at 2 or 3 or 4, would you?

A. I don't see, if I was going off duty, why I would need to know the time that surgery was starting, unless it was happening on my shift and there was something specific that I was expected to do.

THE CHAIRMAN: Yes.

MS COMERTON: If we could go to reference 058-035-144. You have indicated this was your note that you made at 9.30. The results from the blood sample are then recorded after your note and the time beside them is 11 o'clock.

A. Yes.

Q. Would that be the normal time it would take to process a blood sample for electrolytes?

A. It depends on the urgency. if I took blood at 9.30, I would have to fill out the forms, label the bottles, contact the porter, the porter has to come to the ward, take -- there's lots of steps from taking blood to the blood being processed that will determine how long it takes for the result to become available.

Q. Yes. If someone had looked at that record, your note, Dr Cartmill, would it have been apparent that a blood sample had been taken for electrolytes because you've ticked the entry "U&E"?

A. Yes.

Q. So you'd expect someone to realise they've already done the blood sample and test for U&E?
A. Yes.
Q. Were you aware that a second set of electrolyte results were received overnight in relation to Adam?
A. No, I was no longer on duty.
Q. If we could go to 301-081-547. These are the second set of results and the sodium for that set of results is 133; do you see that?
A. Yes.
Q. And then there's a signature on the right-hand side or initials on the right-hand side. Have you any idea when that second blood sample was taken in relation to Adam, Dr Cartmill?
A. No.
Q. Do you know why a second sample would be taken for U&E analysis when you had already taken a blood sample at 9.30?
A. No, I don't know why a second sample was taken.
Q. Was it normal practice at that time for the electrolyte results to be recorded, a handwritten record made of them in the medical notes prior to receipt of the printed laboratory report?
A. They would have had to have been handwritten in the notes so that the results were available for the surgery

that was going to take place the following morning.
Q. Yes.
A. The printed copy from the lab would have been several hours later.
Q. If you look at that, you'll see that the date of the specimen -- it's down at the bottom of the page and it's not terribly clear -- is 26 November 1995?
A. Yes.
Q. And then the date of the report at the bottom is the 27th. So from this document, it appears that a blood sample was taken at some point on the evening of 26 November and then the report was printed out on the 27th, the following day.
A. Yes.
Q. Would you have expected an entry to have been made in the medical notes recording those electrolyte results?
A. I don't know. I don't know why -- if you're saying this was a different sample from the sample that I took ... Is that what you're saying?
Q. Yes. The results are different, different figures.
A. Right.
Q. If you can put that to one side and then -- can we put those two documents side by side? The other document is 301-081-547.

So if you look at sodium on the handwritten note, it's 139. It's 133 in the lab report. Potassium on the handwritten note is 3.6 -- that's "K" -- in the lab report it's 4.3. Each of them are different. Creatinine 702 in the note, 676 in the printed report.

A. Again, I don't know why a second sample was taken. I don't know who took it.

Q. But I'm not asking you that, Dr Cartmill; I'm asking you: would you have expected someone to have made a handwritten note in Adam's medical notes of those electrolyte results prior to receiving the printed laboratory report?

MR FORTUNE: This is pure speculation.

THE CHAIRMAN: I'm not sure it is, Mr Fortune. Let me ask you this way, doctor. The handwritten note on the left, you have said that sometimes is takes a number of hours for the printed lab copy to come up; right?

A. Yes.

THE CHAIRMAN: I know this isn't your writing and this isn't your work, but do you expect then that somebody has telephoned, perhaps, the results which are those which Dr O'Neill has then recorded in that middle column at the bottom of the left-hand page?

A. Yes, either the laboratory has contacted Dr O'Neill or Dr O'Neill has contacted the laboratory.

THE CHAIRMAN: Okay. So that's how come they're written down in the way that Dr O'Neill has written them?
A. Yes.
THE CHAIRMAN: I think you agree it seems curious that there was a second blood sample because that seems to be what happened; right?
A. Yes.
THE CHAIRMAN: Do I take it that you think that would be unusual to have a second blood sample?
A. I don't know.
THE CHAIRMAN: Okay. Well, if there was a second blood sample and, working on the same basis that when the results come out, it's going to take some hours for the printed note to come up from the lab, what one might expect to find is a second handwritten note, which is a bit like Dr O'Neill's on the left-hand page.
A. Yes, it would seem reasonable to expect that.
THE CHAIRMAN: But we don't have that, and that just seems -- I think you are being questioned about if that does seem unusual. And that does seem unusual.
A. Yes.
THE CHAIRMAN: Okay.
MS COMERTON: Thank you.
Would the normal practice have been that the laboratory would have telephoned through with the

results and that's when they would have been written into the medical notes?

A. I don't remember. I wouldn't say that the laboratory necessarily phoned through every single blood result. I can't remember the exact system. If they put it on the computer and you could then access it on the computer. If there was a specific problem with the blood result, obviously, the laboratory would have phoned to highlight that.

Q. Yes. Well, if we look at this blood result, the sodium value in it is outside the normal range; isn't that right?

A. In the printed --

Q. In the printed lab report.

A. Yes.

Q. It's just below the normal range. So the results shown in the printed lab report are not normal, at least one of them is out of the normal range; isn't that right?

A. Yes.

Q. Thank you. If we could go to the fluid balance sheet for a moment, please, at 057-014-013.

THE CHAIRMAN: Can you check the reference?

MS COMERTON: 057-010-013. I beg your pardon. Did you make any entries on that sheet, Dr Cartmill?

A. It appears to be my writing for the name "Adam Strain"

and the hospital number.

Q. Why would you have written or started filling out a fluid balance sheet before you went off duty?

A. Because, on the other side, I've written a fluid prescription.

Q. Okay. You will see from that fluid balance sheet that on the left hand side there is intravenous fluids recorded as commencing at 11 pm.

A. Yes.

Q. And it's fifth normal saline at 20 ml an hour.

A. Yes.

Q. Those would have been administered via a cannula; isn't that right?

A. Yes.

Q. Do you recall whether you inserted a cannula into Adam when you took the blood sample around 9.30 that evening?

A. I don't remember.

Q. Is that something that you would likely have done at 9.30 before a decision had been made as to whether surgery would proceed or not?

A. I think it's unlikely that I would have inserted a cannula.

Q. Why?

A. Because it had not been decided whether Adam was to proceed with an operation.

Q. Okay.

THE CHAIRMAN: And if you had inserted the cannula, is that something you think would have been recorded in the note that we were looking at a few minutes ago?

A. Possibly.

MS COMERTON: If we assume that you didn't insert a cannula, what was the normal practice in terms of the timing of when you would insert it if you were planning to start IV fluids at 11 pm?

A. It would have been inserted at some time before 11 pm.

Q. My question to you is: how close to 11? Was it the practice to do it just before you were about to start the fluid or could you put it in some time before and leave it before starting the fluid administration?

A. Either or.

THE CHAIRMAN: So, in fact, there was no practice, it's just whenever?

A. If you knew a child had to receive intravenous fluids, you would have put in a cannula, but the fluids may not have been commenced straightaway.

THE CHAIRMAN: Okay.

MS COMERTON: If your evidence is that you wouldn't be administering any fluids before you received the electrolyte and blood results, those results appear to have been recorded at 11 o'clock --

A. Yes.
Q. -- in the medical notes. So you're saying 11 pm would have been the earliest opportunity or time that fluids could have been administered?
A. If you were waiting for the blood results then, yes.
Q. And inserting a cannula is something that an SHO would do; isn't that right, Dr Cartmill? It's not a nurse's job.
A. At that time, it would have been the doctor. I don't recall nurses inserting IV cannulas.
Q. Thank you. Did you have any experience of assessing electrolyte results for someone who was being prepared for a renal transplant?
A. I don't remember.
Q. Dr Cartmill, the entry that you made in your medical notes related to IV maintenance fluid --
A. Yes.
Q. -- the administration of IV fluid for maintenance. Were you aware of any other aspects of the fluid management plan for Adam that were proposed?
A. No.
Q. If we could refer for a moment to witness statement 002/2, pages 18 to 19. I want to refer you specifically to the bottom of page 18, but principally to the top of page 19. This is Professor Savage's witness statement

to the inquiry and he sets out what the fluid management plan was. He is saying:

"The precise composition of the Dioralyte is given in appendix 1. It was planned to correlate with Adam's overnight intake volume of fluid to most of that which he would normally have received, that is 1.5 litres. This was the basis for the calculation of the intravenous fluids at 75 ml per hour after the tube feeds were discontinued. Calculating retrospectively as follows: clear fluids by gastrostomy feed for approximately 6 hours at 180 ml an hour would give 1,080 ml. Intravenous fluids at 25 ml per hour for 6 hours would give 150 ml. When the tube feeds were finished, 2 hours of intravenous fluids at 75 ml per hour would give another 150 ml. Thus, over a 6-hour period, Adam would have received 1,380 ml total fluid. The precise content of the 75 ml per hour intravenous fluid was that it was fifth normal saline or 0.18 per cent saline in 4 per cent dextrose, which was the standard replacement intravenous fluid in use at that time."

So based on Professor Savage's evidence, his plan, he says, was to administer fifth normal saline fluid at 75 ml per hour after the gastrostomy tube feed was discontinued. That is the two hours before surgery.

That would be during the fasting period; isn't that right?

A. Yes.

Q. If the plan was only to administer that type of fluid at that time, why would you have written a prescription for that earlier in the evening?

A. Sorry, what do you mean?

Q. You had written your prescription for Solution No. 18 at 75 ml an hour.

A. Yes.

Q. Professor Savage has said that the plan was that Adam was to receive a number of fluids.

A. Yes.

Q. He was to receive gastrostomy feed for 6 hours. When that tube feed was finished, only then was he to receive the 75 ml per hour.

A. I think my -- well, I don't remember the case, but going back to the previous documents that we showed, the handwritten note that said, "Give maintenance fluids", which, as I have then said, I calculated according to the paediatric prescriber in use at that time.

Q. So in a way you're saying that it was a pre-emptive prescription?

A. Yes.

Q. It wasn't clear if surgery was going ahead and, if it

was, that fluid might not have been administered or needed until two hours before surgery.

A. Until the results were available and other discussions had taken place --

Q. Yes.

A. -- and the decision had been made.

Q. Would you accept that because the time of administration of that fluid had not been recorded anywhere, it might have been confusing for someone following on duty as an SHO taking over from you?

MR FORTUNE: Sir, I rise again. Professor Savage was in the hospital that evening and clearly in charge.

THE CHAIRMAN: Yes.

MS COMERTON: Mr Chairman, one of the issues that the inquiry is examining and investigating is record keeping.

THE CHAIRMAN: Yes, but I think there are more significant examples of record keeping than this.

MS COMERTON: Very well. I will move on.

Dr Cartmill, would you have expected the detail of a fluid management plan, as set out in Professor Savage's statement, to be recorded anywhere at all in Adam's medical notes?

A. I think it would be reasonable to have it recorded.

Q. Thank you. As an SHO, would you have any involvement in

either prescribing or arranging gastrostomy feeds for a patient?

A. I don't remember.

Q. Do you know whether you would normally be expected to write a prescription for a gastrostomy feed fluid?

A. I don't remember.

Q. As an SHO, would you have had any role to play in the peritoneal dialysis of a patient?

A. I don't remember.

Q. And do you recall whether you would have been expected to write a prescription for the peritoneal dialysis fluid?

A. I don't remember.

Q. Do you recall whether the details of peritoneal dialysis would normally be recorded anywhere in the medical notes of a patient when they were having dialysis in hospital?

A. I don't remember.

THE CHAIRMAN: The records of dialysis should be recorded, shouldn't they?

A. I would assume so, but I don't remember.

MS COMERTON: Professor Savage has indicated in his statement in front of you that part of the plan was that intravenous fluids at 25 ml an hour for 6 hours would be administered, giving a total of 150 ml. If that was the plan, would you have expected a prescription for

intravenous fluid at that rate and that period of time?
A. Yes.
Q. Can I ask you, Dr Cartmill: the reference to "clear fluids" in Professor Savage's statement there, what was your understanding of what "clear fluids" meant?
A. I don't know. I don't remember.
Q. Could it mean a number of solutions?
A. Potentially, yes.
Q. It has been suggested that at that particular time on Musgrave Ward, "clear fluids" would only have been known to have meant Dioralyte; do you have any recollection of that?
A. I don't remember.
Q. Okay. In relation to the peritoneal dialysis, Dr Cartmill, did you ever have any involvement in caring for a child who was on dialysis in the Children's Hospital?
A. I did work on Musgrave Ward, but I don't remember specific cases or involvement in specific cases.
Q. The particular machine that Adam was on was a PAC-X machine and it has been suggested by one of the nurses that that type of machine would provide information about the details of the dialysis. Would you have any knowledge of that?
A. No.

Q. As an SHO, would you have had any input into how often a patient's vital signs were monitored?
A. Depending on the case, I may have requested vital signs to have been carried out or documented at different time intervals.
Q. When Adam came into the ward, his vital signs were recorded on admission and it has been suggested that it would have been a clinical direction or decision that would determine the regularity of measuring those vital signs; would you accept that?
A. Yes.
Q. Would you have expected Adam's vital signs to have been measured again preoperatively if they were only recorded initially at about 9.30 on 26 November?
A. I don't know what the guideline or protocol that was in existence at that time was for the frequency of measuring vital signs in any child admitted to the ward, but it would seem reasonable that there should have been another recording preoperatively.
Q. Again, as an SHO, would you have had any input into whether Adam's urine output was measured accurately when he was on the ward that evening?
A. As in would I have measured it myself?
Q. No, would you have given a direction or instruction about that to a nurse?

A. Well, you may have asked the nurse to record input and output.
Q. But I'm talking about measuring it accurately, which would really mean measuring the weight of nappies and working out what the fluid was. Would an SHO usually become involved in directing that that take place?
A. I don't remember giving instructions as specific as what you've described.
Q. Thank you. Do you remember whether the nurses would have used their own initiative and carried out weighing nappies to measure urine output at that time?
A. I don't remember.
Q. If we could go to 057-021-033. This is a drug prescription chart, Dr Cartmill, and on the first two entries for 26 November, you'll see on the left-hand side the drugs are vancomycin and gentamicin, and the time of administration seems to read "maintenance via PD cannula". If the drugs were administered via the peritoneal dialysis cannula, do you know whether the SHO would have done that or whether the nurse would have carried it out?
A. I don't remember.
Q. Would you have expected that last column to have been completed whenever the drugs were administered in that way?

A. That would be usual practice.
Q. Do you recall having any discussions at all with Adam or his mother while you were on duty that evening?
A. I don't remember.
Q. And you had no involvement at all with Adam following his transfer to theatre?
A. Not as far as I'm aware.
Q. When a patient was being transferred from the ward to theatre, who would normally have gone down with the patient and the parent? Would it have been a ward nurse or a theatre nurse?
A. I don't remember.
MS COMERTON: Okay. No further questions.
THE CHAIRMAN: Thank you. Any questions from the floor? Mr McAlinden?
MR FORTUNE: No, thank you, sir.
THE CHAIRMAN: Doctor, thank you very much for coming. You are now free to go.

(The witness withdrew)

Timetabling discussion

THE CHAIRMAN: Ladies and gentlemen, I think the only other business this morning is we have circulated a note, which I think most of you will have received. I'm sorry it didn't come out yesterday evening. There are really two points to come from this. One is the slight

variation in the position about Professor Kirkham and the second point is the confirmation that we will resume on Monday 11 June.

We have governance evidence to hear and we have some outstanding witnesses on the clinical side to hear. In an ideal world, I would like to call the clinical witnesses first, in the first week of 11 June, and then do the governance witnesses in the following three weeks from 18 June. I'm not sure that that will necessarily be possible because we're not clear yet about the availability of different witnesses, but the hearing will resume on Monday 11 June and we will issue a witness schedule as soon as we possibly can. I hope this will begin to take shape next week and we will then issue it to you as soon as we can.

As you will have anticipated, there are a number of people who have given evidence -- for example Professor Savage, Dr Taylor and Mr Keane -- who will be recalled, but the evidence which they will be recalled to give will be much, much shorter than the evidence than they've already given. Some of the evidence which they have given already clearly overlaps with governance issues and has strayed quite far, in some cases, into governance issues. That means that the evidence which they still have to give and which is outstanding in

those areas is not extensive insofar as we can anticipate these things. But there are people who are further up the hierarchy or further along the line in the Royal who we will be certainly asking to come to give evidence, such as clinical directors and so on.

So I'm quite confident that we can get the governance evidence completed and the clinical evidence completed, if we can get witness availability, and we will come back to you on that. We do need some more information and documentation from DLS. I understand that some information has come in over the last few days, Mr McAlinden, and I'm expecting more next week. That will facilitate the issuing of Salmon letters and fitting different witnesses into the schedule. I think we both have a good idea of who will definitely be required. It's the maybes who we're a bit less sure about.

MR McALINDEN: Yes.

THE CHAIRMAN: Are there any points?

MR FORTUNE: Sir, being realistic, when can we at the bar expect to receive the evidence that relates to governance? Bearing in mind, firstly, we have to read it and, secondly, we have to take instructions upon it.

THE CHAIRMAN: As I said, we have -- our expert statements, we're still waiting for a few more witness statements to

come in and we have been reluctant to issue the expert reports until we have the witness statements in because we don't want witnesses then to see the expert reports and start tailoring or adapting their written statements around them. Realistically, I think all of this should be available to you by the end of next week.

MR FORTUNE: Thank you.

MR MILLAR: Sir, Mr Keane hasn't received any request for a witness statement in relation to governance. I'm taking on board your remarks about how extensive his evidence has already been about that. I'm wondering if we can get a sense of what the residual issues are.

THE CHAIRMAN: Not only has he not received a request for a governance statement, nor have Dr Taylor and Professor Savage. I'm completing the picture for you because they come together in this way: we've already explored at least some of the areas and I don't think that there is likely to be extensive evidence from them still to give. But what we will do is we will indicate to you, by lines of questioning, what the outstanding areas they're going to be asked to cover will be. Those will be lines of questioning which you don't get on the night before they come to give evidence. You will get them further in advance than that.

MR MILLAR: That would be very helpful, sir.

MS ANYADIKE-DANES: Sir, unfortunately Mr Millar wasn't here at the time when I went around counsel who are here to suggest that, immediately after you've finished with this part of the hearing, that I meet with counsel and we can discuss precisely some of those matters as to how we can achieve the most expeditious run into the hearing on 11 June. Unfortunately, he wasn't here, but everybody else was good enough to indicate that they would attend such a meeting.

THE CHAIRMAN: Okay. Is there anything else? Monday 11 June at 10 o'clock. Thank you very much indeed.

(11.22 am)

(The hearing adjourned until 10.00 am on Monday 11 June)

I N D E X