1 Friday, 11 May 2012

2 (10.00 am)

3 THE CHAIRMAN: Good morning.

4 MS COMERTON: Good morning, Mr Chairman. Our first witness

5 is Dr Terence Montague.

6 DR TERENCE MONTAGUE (called)

7 Questions from MS COMERTON

8 MS COMERTON: Dr Montague, you have kindly provided us with

9 your CV; is that right? Do you have a copy of it in

10 front of you?

11 A. I do, thank you.

12 Q. I'd just like to refer to it briefly. First of all, you

13 qualified in 1986; is that right?

14 A. That's correct.

15 Q. And then you became a fellow of the College of

16 Anaesthetists and the Royal College of Surgeons in 1993.

17 A. That's correct.

18 Q. And you were appointed as a consultant of anaesthesia

19 and intensive care in August 1997.

20 A. That's correct.

21 Q. And that was in Manchester Children's Hospital?

22 A. Yes.

23 Q. If you turn to page 306-031-004, you'll see that you had

24 three discrete periods in Manchester and, in between

25 those periods, you were away in Toronto, I think, doing

1 a fellowship; isn't that right? And then you had a
2 sabbatical in Melbourne.
3 A. That's correct.
4 Q. And you have indicated at the front of your CV that you
5 were the lead clinician for the intensive care unit for
6 the last two years in that post, between 2003 and 2005.
7 A. That's correct.
8 Q. Currently, you are employed as a consultant anaesthetist
9 in Our Lady's Children's Hospital in Dublin.
10 A. Yes.
11 Q. And you have been there since July 2005.
12 A. That's correct.
13 Q. So you have been employed as a consultant anaesthetist
14 for approximately 13 years in total to date.
15 A. That's correct, yes.
16 Q. You have also indicated that you are involved in the
17 educational side of anaesthesia. You're an examiner for
18 the College of Anaesthetists.
19 A. Yes.
20 Q. And you also teach in the College of Anaesthetists in
21 Ireland.
22 A. Yes.
23 Q. And you teach doctors and nurses about fluid management
24 in children.
25 A. I do, yes.

1 Q. Where is that? Where do you teach?
2 A. Most of it would be in the hospital itself --
3 Q. That you're working in?
4 A. -- in Our Lady's Children's Hospital. I have also given
5 a talk in the college as well and I have talked to
6 groups of nurses in the hospital also.
7 Q. In your own hospital?
8 A. Yes.
9 Q. When you say "the college", is that the College of
10 Anaesthetists of Ireland?
11 A. That's correct.
12 Q. I'd like to try and establish a clear picture of what
13 your paediatric anaesthetic experience was at the time
14 of Adam's transplant operation.
15 A. Okay.
16 Q. You have indicated, in some detail, from approximately
17 1990 onwards your experience. From August 1990
18 to July 1991, you were in the City Hospital as an SHO.
19 A. Yes.
20 Q. And if we refer to your witness statement 009/3, page 3,
21 question 4(d). You have described a little of your
22 experience there. About five lines down in the second
23 paragraph:
24 "The work would have included a large range of
25 cases, mainly involving adults. The cases ranged in

1 complexity from minor problems in healthy patients to
2 major emergency procedures such as a ruptured aortic
3 aneurysm. We would have cared for some children in the
4 ENT theatre."
5 A. Yes.
6 Q. During that year as an SHO, would you have anaesthetised
7 or been involved in the anaesthetisation of children?
8 A. I would, yes. There were children in ENT theatres.
9 There would have been mixed lists of adults and children
10 in the ENT theatres in the City Hospital.
11 Q. What proportion of your work during that year would have
12 involved anaesthetising children or helping?
13 A. In the first two months of my year -- that was my first
14 year in anaesthesia -- I spent most of my time during
15 the daytime in the ENT theatres. So as I say, they were
16 mixed lists so there will have been some children on all
17 of the ENT lists and they would have ranged from some
18 healthy, normal children having their tonsils out, for
19 example. There was a list once a week of small complex
20 babies with difficult airway problems.
21 Q. So for two months, once a week, you were dealing with
22 small children in theatre?
23 A. Yes, I suppose that's reasonable to say.
24 Q. Did you have any experience of anaesthetising children
25 who had impaired kidney function?

1 A. I have no memory of having done that. As I say, most of
2 the children that would have been on those lists in the
3 City Hospital would have been healthy, normal children
4 with normal childhood illnesses.
5 Q. Would the surgery relating to the children have been
6 relatively minor surgery?
7 A. I suppose if you can call having your tonsils out minor
8 surgery, yes, that's what it would have been. I suppose
9 it was major for the children, but the children were not
10 complex. They didn't have complex illnesses.
11 Q. Thank you. If we move on then, you then went to the
12 Ulster Hospital for two years and you were an SHO there.
13 Again, what proportion of your workload there would have
14 involved children?
15 A. Again, the vast majority of my work would have involved
16 adults. There were three general surgeons at the time
17 in Belfast, general paediatric surgeons, and each of
18 those had a list -- an afternoon list or a morning
19 list -- in the Ulster Hospital where they did elective
20 surgery on some children and there were ENT lists also,
21 again mixed, adult and children. But there was
22 a separate children's theatre and all of the anaesthetic
23 trainees would have rotated through.
24 Q. How long would you have spent in the children's theatre
25 during that period roughly?

1 A. I couldn't honestly tell you, but we all rotated
2 through -- I suppose there were eight or ten of us and
3 there was some kind of a list on every day, so we all
4 would have gone through at some stage.
5 Q. Would there have been children's surgery on every day?
6 A. There would have been. There were three lists a week of
7 surgery, so Mr Brown, Mr Boston and Mr Potts had a list
8 each every week -- that's my memory of it -- and there
9 were some ENT lists. But they would not have been
10 looking after complex patients there. They would have
11 been, in the main, healthy children having relatively
12 minor elective procedures.
13 Q. Could I clarify: are those three lists children's lists
14 or adult lists with some children on them?
15 A. No, children's lists.
16 Q. Thank you. Then you moved on to your first post as an
17 anaesthetic registrar, and that was in Altnagelvin
18 Hospital in Derry.
19 A. Yes.
20 Q. In that post, would have been working both in theatre
21 and in intensive care?
22 A. Yes, I would have done theatre and intensive care.
23 Q. And on the labour ward?
24 A. Yes, exactly, yes.
25 Q. What experience did you have then relating to

1 anaesthetising children?

2 A. There were no specific paediatric surgeons working in

3 Altnagelvin. Again, it was mainly adult surgery and

4 adult surgeons. They would have looked after some

5 children, there would have been some elective surgery

6 carried out on some children. We all would have had

7 a proportion of that, I suppose, by -- whatever list you

8 were assigned to do may or may not have had children it.

9 Q. Would that have included major surgery?

10 A. No, no. All of the major surgery for children was

11 centralised in the Sick Children's Hospital in Belfast.

12 Q. Thank you. Again, do you recall having any experience

13 of anaesthetising children who had kidney conditions or

14 impaired kidney function?

15 A. I don't have any memory of looking after children like

16 that in Altnagelvin.

17 Q. Okay, thank you. If we move on then, you took

18 a research post as a senior registrar in 1994. What's

19 the difference between a registrar and a senior

20 registrar?

21 A. I suppose it's a sign of progression, really. At the

22 time, you had to do a competitive interview for an SHO

23 job, a competitive interview for a registrar job, and

24 a competitive interview for a senior registrar job.

25 There was a possibility -- and occasionally it

1 happened -- where people didn't make it from the
2 registrar to the senior registrar grade. In terms of --
3 it was a sign, an acknowledgment that you were more
4 experienced, you probably would have been allowed to do
5 more cases with less supervision. But again, that would
6 depend. You may be a senior registrar in name and, if
7 you weren't experienced or competent to carry out
8 a certain procedure, it wouldn't have mattered if you
9 were a senior registrar or a registrar.
10 Q. Would that normally have been the consultant's decision
11 as to whether the registrar or senior registrar was able
12 or fit to carry out a certain procedure?
13 A. Yes. It certainly would, yes.
14 Q. Thank you. If we could refer then to witness statement
15 009/3, page 3. It's question 4(d). It's the second
16 paragraph:
17 "In 1994, Dr Taylor was one of my supervisors for
18 a research project that I undertook. This was based
19 mainly in Queen's University Belfast. As part of this
20 project, I undertook clinical research on a small number
21 of healthy children having minor procedures -- probably
22 fewer than 20 -- in the Children's Hospital. Dr Taylor
23 would have been one of the consultants looking after
24 a proportion of these patients."
25 Also, witness statement 009/1, page 4, question

1 1(d). And again, it's a reference to this research post
2 you describe it in a bit more detail:
3 "Between August 1994 and 1995, I was a research
4 fellow. Up until May 1995, I was based exclusively in
5 the laboratory in Queen's."
6 So that means that between August 1994 and May 1995
7 you were in a laboratory only, you didn't have specific
8 clinical experience?
9 A. No, I did not.
10 Q. "From May 1995, I was carrying out clinical research on
11 healthy children undergoing anaesthesia in the Ulster
12 Hospital. Some of these were less than six. I was
13 never solely responsible for their clinical care. I did
14 not anaesthetise these children. I carried out
15 physiological research while another anaesthetist was in
16 charge of the course of the anaesthetic."
17 Could you perhaps clarify, the role that you played?
18 The physiological research, was that being conducted
19 while the child was under anaesthetic or was it
20 afterwards?
21 A. No, it was being conducted while the child was actually
22 asleep, while the child was under anaesthetic.
23 Q. So although you weren't in charge of the anaesthetic,
24 you were in theatre and present when the child was being
25 anaesthetised and they were managing the anaesthetic?

1 A. I was in this -- this research took place in the
2 anaesthetic room for about 20 minutes before the surgery
3 commenced. So I was there when the child went to sleep,
4 I did my research or collected my physiological data and
5 then the child had their procedure carried out.
6 I wasn't involved with the procedure, if you like; I was
7 involved with collecting physiological data.
8 Q. Okay. You have said that Dr Taylor was involved in
9 supervising you; isn't that right?
10 A. That's correct.
11 Q. I think he refers in his CV to a sponsor research
12 fellow. So was he your sponsor in that fellowship?
13 A. I had two sponsors, Dr Crean and Dr Taylor, and they
14 sponsored -- yes, they were my supervisors.
15 Q. What did that actually mean?
16 A. I discussed and planned the research that I was going to
17 carry out with both Dr Crean and Dr Taylor. As it
18 involved doing physiological measurements on
19 anaesthetised children, they had to agree that it was
20 a worthwhile project, that it was interesting, it was
21 valid. They also had to agree and help facilitate the
22 research within the hospital if possible.
23 Q. What was the nature of the subject matter of your
24 research?
25 A. Do you really want to know?

1 Q. Very briefly.

2 A. It was doing -- plethysmography is what it's called,
3 looking at blood flow in the hands of children under
4 anaesthesia as a marker of changes in stress levels.

5 Q. Thank you. If we just go back to that statement on
6 page 4, you say:

7 "From August to November 1995, I worked in adult ICU
8 and did not look after any children. From January 1995
9 until November 1995, I had not actually anaesthetised
10 any children, supervised or unsupervised."

11 From there then you moved to --

12 THE CHAIRMAN: Sorry, just on that point. You say
13 from January until 1995 you hadn't actually
14 anaesthetised any children. It actually goes back a bit
15 further than that, doesn't it? Does it not go back
16 to August 1994?

17 A. The question specifically asks from January 1995, which
18 is why I answered it like that. But you're correct,
19 I stopped clinical anaesthesia in August 1994.

20 THE CHAIRMAN: Thank you.

21 MS COMERTON: You moved then from that post to the post of
22 senior registrar in the Royal Victoria Hospital. That
23 would have been dealing with adults; isn't that right?

24 A. Yes.

25 Q. So you had no dealings with the Children's Hospital?

1 A. None at all.
2 Q. And nothing to do with any anaesthetising children?
3 A. No -- I was not involved in the care of any children
4 from that first three months that I was in the Royal
5 Group of Hospitals.
6 Q. Okay. Then at the beginning of November 1995, you were
7 appointed senior registrar in the Children's Hospital.
8 A. That's correct.
9 Q. So you would have had about four weeks' experience
10 in the Children's Hospital as the senior registrar prior
11 to the date of Adam's transplant operation?
12 A. That's correct.
13 Q. During that period, I take it you would have been
14 working in theatre quite regularly.
15 A. Yes.
16 Q. Would you have been anaesthetising children on a regular
17 basis?
18 A. Every day that I was there, yes.
19 Q. And would you have been working alone on occasions
20 without the consultant in theatre?
21 A. Yes, I probably would. During the day, the consultants
22 were around, they may not have been with me or with the
23 registrars for every single case, but they were
24 available and they would decide, based on competence and
25 the complexity of the case, whether or not we could do

1 the case supervised or unsupervised.
2 Q. Yes. Would you have performed or would you have taken
3 care of the anaesthetic in theatre for major surgery
4 during that period?
5 A. I doubt it. I don't remember the cases that I did
6 during that period, but I think that that would have
7 been inappropriate --
8 Q. Okay.
9 A. -- so I doubt that that would have happened.
10 Q. Perhaps we could refer to reference 301-123-666.
11 If we look at 15 November 1995, six lines down, you'll
12 see it's an appendectomy. The classification of
13 operation -- I'm not sure what happened there. It looks
14 like "major, general anaesthetic", and your name is on
15 the theatre log.
16 A. Yes.
17 Q. So appendectomy, would that have been classified as
18 major surgery?
19 A. It appears that somebody called it major surgery.
20 Again ...
21 THE CHAIRMAN: Would an appendectomy be major surgery in
22 your eyes?
23 A. Not really, no.
24 THE CHAIRMAN: Unless there's some complicating feature?
25 A. The Bupa codes probably call it major. They're very

1 broad divisions. It doesn't really tell you anything
2 about the complexity of the child, if you like. But
3 we -- as a senior registrar in anaesthesia, we would
4 certainly have looked after children that had their
5 appendix removed.
6 THE CHAIRMAN: Would you also have done that, say, in
7 Altnagelvin?
8 A. Yes, I would, yes.
9 MS COMERTON: Okay. While you were in the Children's
10 Hospital in November, did you have any experience of
11 anaesthetising young children under 6?
12 A. I'm sure I did, yes.
13 Q. And do you recall whether you had any experience of
14 anaesthetising children who had either a kidney
15 condition or impaired kidney function?
16 A. I don't recall if I did.
17 Q. Thank you. Also --
18 MR UBEROI: Sorry to rise, perhaps before that is left,
19 I don't know if witness statement 009/2, page 6 -- it
20 might be an appropriate moment just to put that answer
21 to the witness, where he's asked in terms of his
22 experience of anaesthetising children under six years
23 old.
24 MS COMERTON: I was going to come to that later if you could
25 allow me to do that.

1 While you were a registrar in the Children's
2 Hospital, would you have come in to regular contact with
3 Dr Taylor?
4 A. Yes, I would, yes.
5 Q. Did you have a tutor or a supervisor as senior
6 registrar?
7 A. I don't really remember. There would have been a tutor
8 for all of the anaesthetists in the Royal Group of
9 Hospitals. I don't remember who that was at the time.
10 The senior anaesthetists that would have done most of
11 the supervision in the Children's Hospital were Dr Crean
12 and Dr Taylor. They were the anaesthetists that were
13 there the longest at the time really.
14 Q. So did they assign the particular registrars to
15 particular lists on a daily basis or a weekly basis?
16 A. No, it wasn't done like that. The way it was done -- my
17 memory of the way it was done was that the registrars
18 would arrive some time around 8.30. There was
19 a whiteboard outside the theatre with the lists that
20 were going to be performed that day, and between us
21 we would decide which lists we wanted to do, we were
22 interested in doing for particular reasons, or -- and so
23 we would decide among ourselves where we would go that
24 day.
25 Q. So how many registrars would be turning up at 8.30 every

1 morning?

2 A. My memory is there were five registrars on the rota for

3 that slot, but four of them would have been assigned to

4 the Children's Hospital and one was assigned to Royal

5 Maternity. At night, on call, we covered both the

6 Children's and Royal Maternity.

7 Q. Does that mean there were four every morning or were

8 there three out of four, two out of four?

9 A. It would depend on holidays, who had been on call the

10 night before. Also, the European working time directive

11 had started, the implementation of that process had

12 started around that time and we worked what was called a

13 partial shift. We weren't allowed -- during the week,

14 we weren't allowed to do 24 hours on call. We had to do

15 16, so we would come on in the afternoon and work the

16 afternoon and the night.

17 Q. Yes.

18 A. So there may have been -- so there would be a variable

19 number of anaesthetists, of junior anaesthetists,

20 turning up.

21 Q. Depending on whether it was a weekday or a weekend and

22 everyone's holidays arrangements?

23 A. Yes.

24 Q. So on weekends you could do 24 hours on call?

25 A. Yes, somehow on weekends you were allowed to do 24

1 hours, but during the week 16 was the maximum.

2 Q. And you would have also assisted Dr Taylor during that

3 period in theatre at times?

4 A. That's correct and I would have learned from Dr Taylor

5 and Dr Crean. I was there to be trained and get

6 experience.

7 Q. Okay. I'd like now to refer to a couple of things in

8 your witness statement. Witness statement 009/1,

9 page 10. It's question 11(a). You have said there:

10 "Most of the children I would have looked after up

11 to that point were [and this is prior to

12 26 December 1995] were normal, healthy children

13 undergoing anaesthesia to have a minor or moderately

14 complex procedure performed. Up to that point, I had

15 never spent any time in paediatric intensive care where

16 children with significant hyponatraemia would be treated

17 and monitored."

18 I wanted to clarify with you the meaning of that.

19 Are you saying that, up until 26 November, you hadn't

20 worked in paediatric intensive care?

21 A. That's correct.

22 Q. At all?

23 A. At all.

24 Q. Was that because most of your work then would have been

25 in theatre with children?

1 A. Yes. In Belfast at that time, the junior medical staff
2 in intensive care were from the paediatric side of the
3 hospital, if you like. So there were paediatric SHOs
4 and registrars. Our duties were principally in theatre.
5 At night, we were principally on call for Royal
6 Maternity and the Children's Hospital and we had no
7 official input to the intensive care unit. So we were
8 not assigned on a regular basis to the intensive care
9 unit.
10 Q. So it was medical SHOs or registrars that would have
11 been working in intensive care?
12 A. That's correct.
13 Q. Thank you.
14 A. And that's different to the adult intensive care where
15 it was almost exclusively staffed at that time by
16 anaesthetic junior doctors.
17 Q. Yes, but the consultant anaesthetists were in charge of
18 the paediatric intensive care at that time, were they
19 not?
20 A. That's correct, yes.
21 Q. But the junior staff were not anaesthetic staff; is that
22 what you're saying?
23 A. That's correct, yes.
24 Q. The other point I would like to refer to is witness
25 statement 009/1, page 11, question 15(d). Really, this

1 is about your experience. You say:

2 "While I was a senior registrar in anaesthesia

3 at the time of Adam's death, I had very limited

4 experience of caring for children of such complexity.

5 I had no specialist knowledge about the fluid management

6 for children undergoing anaesthesia with renal failure.

7 As my experience has increased, my knowledge has

8 broadened with expanding literature. I would have a

9 greater understanding now of the fluid needs of such

10 children."

11 So you had really not come into contact with any

12 children with serious renal difficulties prior to Adam's

13 operation; is that right?

14 A. I have no memory of coming across anybody with such

15 complexity, no.

16 Q. Thank you. The point that Mr Uberoi had raised: if we

17 go to witness statement 009/1, page 10, question 11(b).

18 This was your first witness statement, Dr Montague. We

19 had asked you:

20 "Prior to 26 November, what was your experience of

21 children undergoing anaesthesia, including the total

22 number of children aged less than 6 anaesthetised by

23 you?"

24 In your first statement, you estimated that you had

25 anaesthetised between 500 and 600 children under 6 years

1 old and you couldn't be any more accurate. But that
2 changes, and if we go to witness statement 009/2,
3 page 6, question 10, you are asked further about that.
4 You say in the last two lines of that:
5 "I must emphasise that this is an estimate, but on
6 further consideration I may have overestimated
7 specifically the number of children under 6 years old.
8 It is difficult for me to be certain about this."
9 Can you provide any more accurate an estimate now,
10 Dr Montague, because you have said you don't think it's
11 500 or 600?
12 A. I honestly don't know what the number is. As
13 I explained to you, I did look after children in all of
14 the posts where I have worked before. But I don't
15 honestly know how many. I don't have a record and
16 I can't honestly say how many children were under
17 6 years of age.
18 Q. Okay, thank you. So in essence, Dr Montague, you had,
19 by 27 November 1995, four weeks' experience in the
20 Children's Hospital, anaesthetising children in theatre?
21 A. Yes.
22 Q. And then prior to that, you really had a mixed
23 experience as a registrar and as an SHO involved in
24 anaesthetising children at times, but predominantly your
25 work would have been adult related?

1 A. That that's correct.
2 Q. You had never been involved in transplant surgery prior
3 to 27 November.
4 A. Not in a child.
5 Q. Had you been involved in an adult?
6 A. In the City Hospital when I was an SHO, I would have
7 been involved in some adult transplants.
8 Q. Were they kidney transplants?
9 A. Yes.
10 Q. When was that?
11 A. 1990 and 1991.
12 Q. And that was when you were an SHO?
13 A. An SHO, my first post in anaesthesia. So I don't know
14 how many, but there would have been some kidney
15 transplants in adults during that time.
16 Q. Would that have been a fairly infrequent occurrence at
17 that time, 1990?
18 A. Well, they were doing them -- I don't know how many they
19 did, but they had a programme, an active programme, but
20 the number of transplants is dependent on the number of
21 donors.
22 Q. Yes.
23 A. And also, I would have been on call one night in five,
24 probably. So I'm sure I was involved with two or three
25 or four. I can't be more specific than that.

1 Q. Thank you. And since 27 November, you haven't acted as
2 anaesthetist during a paediatric renal transplant;
3 is that right?
4 A. That's absolutely correct.
5 Q. So this was a one-off?
6 A. Just the way that it happened; it was a one-off.
7 I worked in Manchester. There were two hospitals in
8 Manchester. The hospital where I did my on call in
9 Manchester didn't do transplants. It was one trust;
10 it's now one hospital, one big hospital. But the
11 hospital didn't do transplants, the other hospital did,
12 so my base hospital didn't do transplants. There are
13 two children's hospitals in Dublin. I work in the one
14 that does the cardiac work, but doesn't do the renal
15 transplants.
16 The renal transplants in Manchester when I worked in
17 intensive care, they didn't actually come back to
18 intensive care, they all went to HDU on the ward. So
19 I have very limited experience of -- exposure to renal
20 transplants in children.
21 THE CHAIRMAN: Just before you go on, when you were doing
22 these two or three or four or you were involved in the
23 two or three or four transplants in adults in the City
24 as an SHO in 1990/1991, who were the surgeons involved?
25 Was Mr Keane one of them?

1 A. Mr Keane was senior registrar at the time. Yes, he was.
2 MS COMERTON: One point I just want to go back to briefly:
3 you had also indicated in your witness statement that
4 while you were in the City Hospital, Dr Taylor was one
5 of the anaesthetic senior registrars there.
6 A. That's right.
7 Q. So he would, with the other senior registrars and
8 registrars, would have taught and supervised you,
9 particularly at nights and weekends?
10 A. That's correct.
11 Q. So you have grown to know Dr Taylor over a number of
12 years?
13 A. Yes, I knew Dr Taylor before I arrived in the Children's
14 Hospital. He helped me get research organised and
15 supervised my research, yes. So I knew him.
16 Q. Thank you. The next thing I would like to ask you about
17 is the Children's Hospital renal protocol for renal
18 transplantation in small children. If we could call
19 that up. It's witness statement 002/2, page 52.
20 Dr Montague, were you aware around 27 November 1995 of
21 this protocol?
22 A. No.
23 Q. Had you ever seen it?
24 A. No.
25 Q. Either before or after the operation?

1 A. No. I had never seen it.
2 Q. Did anyone discuss it with you prior to the operation?
3 A. No, I don't remember anyone discussing this protocol
4 with me.
5 Q. If we move on then, I would like to ask you about the
6 events on 26 November. You had been on call on Sunday
7 26 November 1995; isn't that right?
8 A. That's correct.
9 Q. And you were on duty from 9 in the morning on the Sunday
10 until about 9 in the morning on the following Monday,
11 the 27th.
12 A. Yes.
13 Q. So that was your 24-hour shift?
14 A. Yes.
15 Q. Your involvement in Adam's case first arose whenever you
16 received a telephone call from a ward doctor on
17 27 November 1995; isn't that right?
18 A. That's correct.
19 Q. Can you recall when you were first contacted about Adam
20 that evening?
21 A. I don't remember the time. I know it was dark, I was in
22 bed in Royal maternity, which is where we were based.
23 I have no idea what time it was, but I was in bed and
24 I was contacted by one of the ward staff about Adam.
25 Q. Can you recall who it was?

1 A. I don't know. It was a woman. That's all I know.

2 Q. I think you have said in your statements it was either

3 the SHO or the registrar?

4 A. Well, I'm presuming it was either. I don't remember if

5 they -- they may have told me their name and they may

6 have told me their grade, but I know it was a woman.

7 That's all I know.

8 Q. Okay. When the ward doctor phoned you, was that the

9 first time that you were told that Adam was being

10 prepared for a transplant operation?

11 A. That's the first I knew that there was a transplant

12 operation in the pipeline.

13 Q. At the time of the call, was the reason for them phoning

14 you because the cannula had tissued and they needed to

15 gain intravenous access to Adam?

16 A. That's what the doctor told me. They told me that the

17 cannula had tissued, they had difficulty getting another

18 cannula sited, that he was on feeds of -- my memory

19 tells me he was ... What I remember is that they said

20 he was on 180 ml an hour of feed and he was going to be

21 fasting prior to surgery and that he needed intravenous

22 access.

23 Q. When you say "feed", was that an intravenous line or

24 another kind of feed?

25 A. He was on PEG feed --

1 Q. Gastrostomy?
2 A. Gastrostomy feed, yes.
3 Q. So were you being telephoned to come and help insert
4 a cannula?
5 A. Yes.
6 Q. And I take it the reason why you were being contacted
7 was, as an anaesthetist, you would have much more
8 experience of inserting intravenous lines into young
9 children and could probably do it more easily than
10 a ward doctor?
11 A. I think maybe they were hoping I could. The reality
12 is that the paediatric doctors have far more experience
13 than adult anaesthetists at inserting lines in children.
14 Q. Okay. But you would have had experience of that while
15 you were in the Children's Hospital, Dr Montague,
16 wouldn't you?
17 A. Four weeks. They had two or three of four or five
18 years, you know.
19 Q. Yes. On a daily basis, I think you said.
20 THE CHAIRMAN: But would they know when they rang you
21 whether you had been there for four weeks or a year?
22 A. They would have no idea.
23 THE CHAIRMAN: So there's a bit of pot luck involved about
24 how experienced in a particular area the doctor on call
25 is?

1 A. That's absolutely right, yes.
2 MS COMERTON: Was the other reason why they phoned because
3 they knew that Adam was going to theatre and they need
4 some kind of input from the anaesthetic team about how
5 Adam's fluids were going to be managed between that
6 point in time and going to theatre?
7 A. That's not my memory of what happened. My memory of
8 what happened was I was asked about siting an
9 intravenous cannula because he was going to be fasting
10 and he would need fluids while he was fasting.
11 Q. Okay. You then telephoned Dr Taylor; isn't that right?
12 A. I phoned Dr Taylor. As I said, I think, the paediatric
13 doctors are far more experienced than an adult type of
14 anaesthetist. If they were having difficulty -- it was
15 clearly a child who had been in and out of the hospital
16 on a number of occasions. If he had chronic renal
17 failure and was attending for a transplant. I felt that
18 if the paediatric doctors were having difficulty,
19 I didn't think I would be of any value to them, really.
20 I could also tell that Adam was upset and distressed and
21 that would make it more difficult again. So I phoned
22 Dr Taylor to discuss this with me, to get advice about
23 what to do.
24 Q. Yes. If we go to your PSNI statement at 093-037-117.
25 You say about ten lines down:

1 "Dr Taylor was content that he would deal with this
2 in the morning. I consulted Dr Taylor and he advised me
3 to advise the ward to make no further attempts as the
4 child was very upset. I could hear Adam crying on the
5 phone. Dr Taylor was content that he would deal with
6 this in morning."
7 And you then passed that information on to the ward
8 doctor?
9 A. I phoned the ward doctor back and said I'd spoken to
10 Dr Taylor and it would all be sorted out when Adam came
11 to theatre.
12 Q. What did Dr Taylor say to you that you recall?
13 A. I don't recall the specifics of what he said, but the
14 general sense of what he said was that it would be
15 sorted out in theatre.
16 Q. You don't recall the exact words that he used?
17 A. No, I don't.
18 Q. But you have a clear recollection that it was in theatre
19 that Adam --
20 A. Sorted out?
21 Q. -- an intravenous line was going to be inserted as
22 opposed to on the ward?
23 A. I had absolutely no doubt in my mind that Adam would get
24 an intravenous line in theatre.
25 Q. In any event, you would have been very clear about

1 telling the ward doctor that?
2 A. I was very clear in telling the ward --
3 Q. That the IV line would go in this theatre?
4 A. Yes.
5 Q. Did you understand that Adam, as a child going in for
6 surgery, would normally be reviewed on the ward before
7 going to theatre?
8 A. That was the general practice in the Children's
9 Hospital.
10 Q. Did you understand that you had any role in that as the
11 anaesthetic registrar?
12 A. I didn't feel at the time that I had a particular role
13 in that. I didn't feel that I would be able to give
14 proper advice or answer any questions from -- that the
15 parents might have. I had never been involved with
16 a renal transplant before. I didn't know this renal
17 transplant was scheduled until I got that phone call.
18 Q. Yes.
19 A. When I phoned Dr Taylor, he knew that the transplant was
20 scheduled, he knew about Adam. So I don't remember what
21 I thought or didn't think. I'm presuming I thought that
22 that was sorted or dealt with.
23 Q. So you presume that Dr Taylor would have visited the
24 child on the ward rather than you, given his knowledge?
25 A. Yes.

1 Q. Can you recall any discussion about that?
2 A. I don't recall any discussion about that on the night.
3 My only recall about that night was the discussion about
4 the cannula with Dr Taylor.
5 Q. And you accept that would have been the usual practice
6 at the time?
7 A. It was the usual practice at the time to see all
8 children on the ward before they came to theatre.
9 Q. Yes. Could I refer you to 011/049-182, please? This is
10 a letter from Adam's mother to the coroner, and it's
11 dated 6 February 1996. I am looking at the second
12 paragraph, about five lines down:
13 "The first thing is that I have been told that
14 a possible reason Adam did not have his electrolytes
15 checked before going to theatre could have been that the
16 two doctors had tried for an hour between 5 and 6 am to
17 find a vein to put a cannula into Adam without success.
18 So therefore, getting any blood would not have been
19 possible. This I know happened because I was there
20 comforting Adam and, when the second doctor gave up, she
21 told me Dr Taylor would be coming in at around 6.20 am
22 and would come to Musgrave Ward to see Adam and he would
23 put a cannula in at that time. As I have pointed out
24 before, at no time did Adam see Dr Taylor before the
25 transplant, which I did think unusual."

1 Have you any comment about that?
2 MR UBEROI: Can I rise to add that certainly my recollection
3 of his evidence is that Dr Taylor accepted it would have
4 been his usual practice to have visited Adam and the
5 mother on the ward and he apologised for not doing so.
6 I think it's fair to contextualise the question in that
7 answer.
8 MS COMERTON: It's really more a question of what
9 information was given to Adam's mother and what
10 information was given to the ward doctors is the purpose
11 of this question.
12 It's clear, Dr Montague, that Adam's mother had been
13 told by the ward doctor, according to this letter, that
14 Dr Taylor was coming round at 6.20 and he would put
15 a cannula in then.
16 A. I don't remember conveying that. That's not the
17 message -- that's not my memory of that night. My
18 memory of that night was: I phoned Dr Taylor and
19 I discussed the situation, as I explained earlier, that
20 there was difficulty getting a cannula inserted in Adam
21 and my memory was Dr Taylor said we would sort that out
22 in theatre. That's my memory.
23 Q. Would you accept that you were the person who passed the
24 information from Dr Taylor to the ward doctors?
25 A. I did.

1 Q. You were the messenger?
2 A. I was the messenger and I don't remember giving that
3 message. That's not the message that I gave so far as
4 I remember.
5 Q. But if Dr Taylor had told you he was coming in at 6.20
6 to put in a cannula, that's what you would have passed
7 on to the ward doctor?
8 A. That is what I would have passed on if Dr Taylor told me
9 that.
10 Q. Thank you.
11 And in your police statement that we had referred
12 to, if we could go back do that for a moment,
13 093-037-117:
14 "Dr Taylor was content [it's about ten lines down]
15 that he would deal with this in the morning."
16 You do not say in your police statement,
17 Dr Montague, that Dr Taylor would deal with this in
18 theatre while Adam was being anaesthetised; isn't that
19 right?
20 A. I don't say it in my statement, no, I don't. But the
21 police didn't ask me -- they didn't show me that other
22 letter and say ... There was no issue about the ward.
23 My memory is that it was going to be sorted out in
24 theatre. And that would make sense to an anaesthetist
25 because you could put the child asleep and then when the

1 child was asleep and not distressed, you would have time
2 to look for a suitable vein to stick a cannula in.
3 THE CHAIRMAN: Sorry, and thereby save Adam from any more
4 distress?
5 A. Absolutely.
6 THE CHAIRMAN: Having had a distressed period during the
7 night?
8 A. That's absolutely right, yes.
9 MS COMERTON: The other suggestion made in the letter was
10 that it was between 5 and 6 o'clock that the ward
11 doctors had tried to gain further intravenous access to
12 Adam.
13 A. Yes.
14 Q. Does that ring any bells with you in terms of the timing
15 of it?
16 A. I don't remember the time that I was called. It was
17 dark, I was asleep, I was woken from my sleep. I don't
18 know what time it was. There's another document that
19 you have, the nursing note from the ward, and according
20 to that, the cannula tissued around 1.30 and, according
21 to that note, around 5 o'clock they stopped trying to
22 get a cannula in. So I'm presuming it was some time
23 between 1.30 and 5 o'clock that somebody phoned me to
24 ask me if I could help them. I don't remember the time.
25 Q. I think Nurse Murphy's given evidence about that note

1 and it is clear what she said, so we will leave it at
2 that.
3 In relation to how you came to act as an anaesthetic
4 assistant for Dr Taylor on 27 November 1995, while you
5 were speaking to Dr Taylor on in the early hours of the
6 morning of the 27th, did you speak to Dr Taylor then
7 about being an anaesthetic assistant or was it another
8 point in time?
9 A. I don't honestly remember any discussion with Dr Taylor
10 about how or when I might assist him. I came to know
11 that they were going to start a case, a transplant,
12 a renal transplant, before the scheduled work day so
13 I could work out for myself that he wouldn't have an
14 assistant. I was interested in a career in paediatric
15 anaesthesia, so this would have been an interesting case
16 for me. It would have been a case for me to get some
17 experience and knowledge.
18 Q. You don't recall if he asked you or if you volunteered
19 then?
20 A. I don't recall.
21 Q. And you don't recall when that conversation took place?
22 A. I don't recall if any conversation took place about me
23 assisting him or being there. I don't recall.
24 Q. How would it normally have worked, Dr Montague, if
25 unplanned surgery had to be conducted out of hours on

1 a weekend like this when you were on call? Would the
2 consultant normally contact you and say, "I need you to
3 come in and assist me on a particular operation"?
4 A. What would normally happen is we would be the first
5 point of contact, the registrar on call. So like that
6 appendix operation that you showed I looked after,
7 I would be called by one of the surgical doctors to
8 say: we have a child who needs to have their appendix
9 out. So the surgeon would generally contact -- the
10 junior surgeon would contact the junior anaesthetist and
11 I would then have to make a decision whether it was
12 within my competence or not, and then I could decide
13 whether I needed to contact the consultant or not.
14 Q. Well, do you recall speaking to anyone else other than
15 Dr Taylor about Adam's transplant?
16 A. Well, nobody spoke to me about Adam's transplant until
17 I was phoned during the night to be asked to assist with
18 the insertion of a cannula.
19 Q. Yes, but subsequent to that telephone call?
20 A. I wasn't involved in any conversations about Adam's
21 transplant with anybody.
22 THE CHAIRMAN: We've got phone call from the ward to you
23 when you were in the Royal Maternity.
24 A. That's right.
25 THE CHAIRMAN: That's your first knowledge that there is to

1 be a transplant?

2 A. Yes.

3 THE CHAIRMAN: Not only did you not know there was to be

4 a transplant, but I gather you didn't know Adam at all;

5 is that right?

6 A. I didn't know Adam. To my knowledge, I had never met

7 him or his mother before.

8 THE CHAIRMAN: Then you speak to Dr Taylor and he's saying

9 he will do it and he will sort it out in theatre.

10 A. Yes.

11 THE CHAIRMAN: It would seem that this may be two and two

12 making five, but that that would be an obvious time for

13 a discussion that you might be his assistant.

14 A. I don't remember the content of any conversation,

15 I don't remember whether he said, "Will you come and

16 give me a hand?", whether I said, "I will come and give

17 you a hand". I'm presuming, like you are, that there

18 was some kind of exchange and an arrangement made that

19 I would be there. But I don't know whether he initiated

20 it and asked me if I would help him or whether I said,

21 "I'll go and give you a hand".

22 MS COMERTON: You must have known at what time to show up to

23 get the theatre ready.

24 A. I must have, yes.

25 Q. Do you recall any conversations with Dr Taylor prior to

1 the commencement of the anaesthetic?
2 A. I don't recall the content of any conversation, no.
3 I mean, we did meet in the theatre complex. We were
4 there before Adam came to theatre.
5 Q. What time were you in the theatre complex at?
6 A. I don't know.
7 Q. How long would it normally take you to prepare for major
8 surgery at that time?
9 A. I can't honestly answer that. We would have to prepare
10 some drugs. That doesn't actually take that long.
11 A few minutes to get drugs ready and a tube ready. The
12 usual anaesthetic drugs. And then the other --
13 I wouldn't have known what other equipment we were going
14 to use, for example, because I had never done one of
15 these before.
16 Q. So you would have had to obtain directions from
17 Dr Taylor about what equipment he required?
18 A. Yes.
19 Q. Do you recall specifically what Dr Taylor asked you to
20 do as his anaesthetic assistant? Did he tell you
21 "I want you to get the drugs, I want you to get the
22 equipment"?
23 A. I suppose it wasn't -- it's not always as defined as
24 that, somebody telling you. I knew I had been there for
25 a few weeks. I knew the kind of drugs we would use to

1 get Adam off to sleep, so I'm sure I was preparing
2 those. I would have known what kind of tube I would
3 have been getting that ready. With regard to --
4 Q. Sorry, when you're talking about a tube, are you talking
5 about the endotracheal tube?
6 A. Yes, the endotracheal or breathing tube. I would have
7 been able to get that ready myself. But the other
8 equipment, I wouldn't have known specifically what he
9 wanted.
10 Q. So you would have had to await direction from him --
11 A. Yes.
12 Q. -- about that?
13 A. Yes.
14 Q. How long did you think that the transplant operation was
15 going to last?
16 A. I don't remember how long I thought it might last.
17 I don't know. They take a number of hours. I would
18 have known that from the adult one, that they take
19 a number of hours. I haven't done one since and I can't
20 honestly say I could tell you now how long a paediatric
21 renal transplant would take, but certainly a few hours.
22 Q. Two, three hours, sorry?
23 A. Yes, a few hours, yes.
24 Q. Two, three hours.
25 THE CHAIRMAN: Sorry, "a few hours".

1 MS COMERTON: A few hours, sorry.
2 And you don't recall being told how long it would
3 likely last?
4 A. No.
5 Q. You say that you were interested in learning about this,
6 that, as a registrar, you were obviously trying to
7 acquire learning experience?
8 A. Yes.
9 Q. And this was a fairly rare occurrence, would you accept,
10 in the Children's Hospital at that time?
11 A. I only know from reading the statements that the number
12 of renal transplants that were done in the Children's
13 Hospital and -- you're talking about a handful every
14 year.
15 Q. Yes.
16 A. It was my first month and here was a transplant.
17 I didn't know how many they did, but yes, it would be
18 unusual. It would be a complex case, clearly, and most
19 of the children in any Children's Hospital that are
20 having surgery are, in general, fit and well.
21 Q. So in terms of the complexity of the surgery and also
22 the complexity of the patient, it was a fairly unique
23 case?
24 A. Yes.
25 Q. And so from your point of view, that would have been

1 quite a valuable learning experience?
2 A. Very valuable, yes.
3 Q. Because you might not come across it again for quite
4 a while?
5 A. Absolutely right.
6 Q. Your 24-hour shift was due to end at 9 in the morning;
7 isn't that right?
8 A. That's correct.
9 Q. Did you have any conversation with Dr Taylor about
10 coming off duty?
11 A. I have no memory of having a specific conversation about
12 coming off duty, no.
13 Q. Do you accept that you must have spoken to him about
14 this?
15 A. I don't know if we discussed how long I would stay or
16 I wouldn't stay. I don't know if we actually discussed
17 that before we started or not.
18 Q. Well, one view may be because you didn't know how long
19 the surgery was going to be, you might have wanted to go
20 in and see it and play it by ear; would that be right?
21 A. I'm sure that's the way it was, for me, that I was going
22 to see how it went.
23 Q. Yes. Had you been in that situation before,
24 Dr Montague, where you were coming in late in your shift
25 to start or help with surgery and you anticipated that

1 you would be leaving before the end of surgery?

2 A. It wouldn't have been the first time that that had

3 happened.

4 Q. And how would you normally have dealt with that, with

5 the consultant?

6 A. It would generally be -- the consultants had been

7 in that situation themselves before and they knew

8 what was likely to happen. What generally happened was

9 that some of the day people coming on would come into

10 the theatre and let you go. That's generally how it

11 happened.

12 Q. So in fact, you mightn't have needed to make any

13 specific arrangement because you knew people were coming

14 in on Monday morning?

15 A. That's what I'm saying. I don't remember making any

16 specific arrangement. I was probably going to just let

17 it -- see what happened, see how it went and know that

18 eventually somebody would let me out and I'd be sent

19 home.

20 Q. Of course, if you thought the surgery was only going to

21 last for a few hours, it mightn't have taken you much

22 past 9 o'clock, so the other alternative is you might

23 have been happy to stay because it was a fairly unique

24 operation?

25 A. That option was there, sure, yes.

1 Q. Okay.

2 Do you recall making any arrangements as to who

3 would replace you as an anaesthetic assistant?

4 A. I don't recall any arrangements. As I explained

5 earlier, there was no specific arrangement about how

6 theatres were allocated. We came in, we went to the

7 board outside the theatre and we decided: I'm interested

8 in that kind of thing, I'd like to go to that theatre.

9 So somebody -- I anticipated that somebody would come in

10 and -- the theatre complex in the Children's Hospital

11 was a small place and you would know that something was

12 going on. So I anticipated that somebody would come in,

13 would realise that there was a case going on and would

14 come and let me go home.

15 Q. And you've said before that normally there were five

16 registrars on during the week. So there may have

17 been --

18 A. There was one for Royal Maternity, so that really left

19 four for the Children's Hospital.

20 Q. Yes.

21 THE CHAIRMAN: And then you would be one of the four, but

22 you had been on the overnight, so does that mean there

23 would be a maximum of three coming in on the Monday

24 morning?

25 A. That's correct.

1 THE CHAIRMAN: It might be less than three if somebody was
2 on holiday or somebody was sick or --
3 A. Or if one of the children's people were on call that
4 night, they wouldn't be coming in until after lunch.
5 MS COMERTON: I wonder if we could refer to 301-124-684.
6 This was a letter from the DLS to the inquiry and I'd
7 like to refer you to the second paragraph of it, please,
8 Dr Montague:
9 "There was only one operating list each Monday
10 morning in November and December 1995, except for
11 27 November 1995 when the extra operating list occurred
12 for Adam Strain's renal transplant."
13 Does that accord with your memory?
14 A. I don't remember the specifics of each day. I do
15 remember that around that time there had been some
16 changes, a number of changes in the anaesthetic
17 department. Some people had left, somebody had retired.
18 So they were short of consultant anaesthetists, so the
19 elective lists were reduced around that time. I don't
20 remember when they got back up to full numbers. So
21 there weren't full elective lists on all of the time.
22 Q. If we go on:
23 "The anaesthetist involved on a Monday morning
24 during November and December 1995 was the consultant
25 Dr Campbell and a trainee anaesthetist: Dr McBrien,

1 Dr Montague or Dr Hill."
2 A. Yes.
3 Q. So the suggestion is that there were three people who
4 were on the Monday morning rota as trainee
5 anaesthetists.
6 A. There were five of us on that on-call schedule, one
7 person in Royal Maternity and four assigned to the
8 Children's Hospital.
9 Q. Yes, but we're talking about Monday mornings in November
10 and December 1995, Dr Montague.
11 A. Yes, there still would have been four of us assigned to
12 the Children's Hospital.
13 Q. Do you recall who the fourth trainee anaesthetist was?
14 A. I possibly do. I don't know for certain.
15 Q. Who do you think it was?
16 A. Well, I ...
17 THE CHAIRMAN: I think you were being asked: there are three
18 names there, including your own; do you remember the
19 name of a fourth person?
20 A. I remember another person who was on that rota, yes.
21 THE CHAIRMAN: And who was that?
22 A. Dr Amit Bedi.
23 THE CHAIRMAN: Is it B-E-D-I?
24 A. Yes.
25 THE CHAIRMAN: Sorry, is your uncertainty about whether

1 he was there at that specific time or do you remember
2 him being there in November 1995?
3 A. I remember that we were in the Children's together. But
4 what his duty was on that Monday morning, I can't tell
5 you.
6 MS COMERTON: You were in the Children's Hospital
7 between November 1995 and May 1996.
8 A. Yes.
9 Q. So was he in the hospital throughout that period,
10 Dr Bedi?
11 A. I don't think so. Most of the registrars did three
12 months in the Children's Hospital. I asked to do six
13 months because I was interested in children's
14 anaesthesia.
15 Q. And how long was Dr Bedi there?
16 A. I think he was there three months, but I can't be
17 certain about that.
18 Q. So your six months -- do you recall which three months
19 he was there?
20 A. My recollection is that he was there for the first three
21 months that I was there. That's my recollection.
22 Q. But, of course, he may have been away or had other
23 commitments at that time?
24 A. As I said, I don't know what he was scheduled to do or
25 where he was on 27 November.

1 Q. If we go on with the letter then:

2 "There was therefore no requirement to roster

3 a second trainee to theatre on Monday mornings as there

4 was only routinely one operating list running. If

5 a second trainee anaesthetist had attended theatre at

6 9 am on Monday 27 November on to assist Dr Taylor,

7 it would most likely have been by way of a special

8 arrangement as he/she would otherwise have had no duties

9 to perform there on a normal Monday morning."

10 A. That's not my memory of how it worked. We all turned up

11 and did whatever needed to be done.

12 Q. But if there was only one operating list and you were

13 working mostly in theatre and not in intensive care,

14 what were the other two anaesthetists doing?

15 A. You might end up with two junior doctors on one list.

16 We were there to get experience and exposure to

17 children's anaesthesia. It was unfortunate that they

18 weren't running all of the lists that they needed to

19 run, but that was your period of time in the Children's

20 Hospital. So you were there to get at much exposure and

21 experience as you could.

22 Q. Well, we have a witness statement from Dr Hill and

23 we can refer to that. It's witness statement 181/1,

24 page 3, question 4 (b) he says:

25 "I recollect assisting a consultant anaesthetist

1 doing a theatre list on the day in question [that's
2 27 November]. I understand that the medical charts
3 identify the consultant as being Rosalee Campbell.
4 I recollect that the theatre we were working together in
5 was adjacent to the theatre where a patient I now know
6 to be Adam Strain was operated on."
7 So according to Dr Hill, he was in the other
8 theatre. That was the routine list.
9 A. Yes.
10 Q. If we could then refer to Dr McBrien's statement.
11 That's witness statement 194/1, page 2. It is
12 question 1. He has no recollection of having acted as
13 a trainee anaesthetist to Dr Taylor during Adam's renal
14 transplant. He says:
15 "I have inspected the relevant clinical notes
16 in relation to this patient's anaesthetic chart. There
17 is no record of my attendance. In addition, the theatre
18 log shows that I anaesthetised two cases [this is on
19 27 November] at 18.30 and 20.05. It is my recollection
20 that on a weekday such as this, the trainee anaesthetist
21 on call overnight came on duty at 1300. This would
22 indicate that I was not in the hospital that morning."
23 So he said he had a theatre list, that he had
24 undertaken surgery later on in the day and he would have
25 been there -- on call or coming on duty -- at 1 o'clock.

1 A. Well, that is, as I explained earlier -- we had this
2 partial shift system for the European working time
3 directive, so he came on in the afternoon.
4 Q. My question to you is: who was coming in at 8.30 or
5 9 o'clock on the 27th that would be available to take
6 over from you? Because Dr Hill thinks he was in the
7 other theatre and Dr McBrien said he wasn't there until
8 1 pm?
9 A. I accept both of those and they clearly were engaged in
10 other activities. I don't know who else. We had
11 a schedule, there were four people assigned to the
12 Children's Hospital, and I don't know where Dr Bedi was
13 or wasn't.
14 Q. Just a minute, please.
15 MR HUNTER: I think, sir, Dr Montague mentioned Dr Bedi.
16 The reference for that is WS192/1, where he says he has
17 no recollection of --
18 MS COMERTON: If we could just refer to that for
19 completeness, thank you. Page 2. 192/1, page 2.
20 THE CHAIRMAN: Can you see this, doctor?
21 A. No, I haven't.
22 THE CHAIRMAN: It's not on your screen?
23 MS COMERTON: We're just waiting for it, Mr Chairman.
24 (Pause).
25 We'll maybe have to come back to that when we get

1 that organised.

2 THE CHAIRMAN: Sorry, what was witness statement 194?

3 MS COMERTON: It was Dr McBrien.

4 THE CHAIRMAN: Right, okay.

5 In any event, we may need to come back to it, but

6 Dr Bedi says he has no recall of being there and there's

7 nothing in the notes to suggest he was.

8 MR UBEROI: [Inaudible: no microphone] no recollection of

9 this case.

10 MS COMERTON: One other document I wanted to refer to,

11 Dr Montague, just in terms of the timing. It's

12 011-006-018.

13 This was a statement of Adam's mother, dated

14 17 January 1996 to the coroner. It's the penultimate

15 paragraph that I want to refer to, the last sentence:

16 "He was taken to theatre shortly before 7 and, at

17 this point, I was told surgery was expected to last

18 between two or three hours."

19 So you had said you thought it would be a few hours.

20 Adam's mother says she was told it would have been two

21 or three from 7 o'clock.

22 A. That's from -- so somebody suggested surgery would be

23 two or three hours. There's also anaesthetic time as

24 well.

25 Q. Yes.

1 A. So that -- the preparation for a case such as Adam's --
2 and, in fact, in Adam's case -- it took some time. So
3 I don't know whether that's added to the two or three
4 hours.
5 THE CHAIRMAN: We don't know how definitive the person --
6 this is someone presumably who's trying to help Adam's
7 mum to appreciate or understand how long Adam will be in
8 surgery for.
9 A. I understand that, yes. And they're trying to be
10 helpful, yes.
11 THE CHAIRMAN: So we don't know how precise or definitive
12 that person's being, but if you were Adam's mum, you'd
13 think: well, if he's going to go down about 7 am and it
14 is going to last for two to three hours, then he'll be
15 out by about 10.
16 A. Yes, yes.
17 THE CHAIRMAN: Some time between 9 and 10?
18 A. Yes.
19 MS COMERTON: When you went down to theatre on the 27th, did
20 you have a clear idea of what you would be doing in
21 theatre, Dr Montague?
22 A. I don't think I could have had a clear idea because
23 I didn't really know what was going to be involved
24 because I'd never done one of these before.
25 Q. But you were familiar with acting as an assistant

1 anaesthetist in theatre?

2 A. I'd been in theatre, yes.

3 Q. Do you recall any discussions that you had with

4 Dr Taylor before Adam was anaesthetised, whether outside

5 the theatre itself or in theatre?

6 A. I don't recall what we discussed. We did meet -- I'm

7 sure we were talking. I don't recall what we discussed.

8 Q. I want to ask you specifically whether there was any

9 discussion at all about discussing Adam's electrolytes.

10 A. I do not recall any discussion about the checking of

11 electrolytes.

12 Q. Had you been aware that there had been a plan to test

13 Adam's electrolytes when he was anaesthetised?

14 A. That plan was not shared with me. I have no memory of

15 that plan.

16 Q. Is that something that you would have expected to have

17 been told as an anaesthetic assistant?

18 A. I'm not sure that I would have been told that we have to

19 do this. I'm not sure that I would have been told.

20 Q. You accept that Adam's medical condition was more

21 complex than any other child you had anaesthetised

22 previously; is that right?

23 A. That's correct.

24 Q. And you were aware that Adam had polyuric renal failure?

25 A. Yes.

1 Q. Do you recall who told you that?
2 A. My memory is that the doctor, the ward doctor that
3 called me about the cannula, told me that Adam had
4 polyuric renal failure and he was admitted to have
5 a transplant.
6 Q. Thank you. Do you recall any discussions you had with
7 Dr Taylor about Adam's clinical condition?
8 A. No, I don't.
9 Q. Would you have expected him to have discussed that with
10 you before anaesthetising Adam?
11 A. I don't know if I -- I don't know at the time if I would
12 have expected that he would have discussed that with me.
13 Q. Why not?
14 A. I don't know if he -- I presume, as the case is going
15 on, that he may have discussed some of the implications
16 of polyuric renal failure, the implications of that for
17 anaesthesia. But I don't recall if we did or didn't.
18 I don't recall that conversation.
19 Q. You were there to learn?
20 A. Yes.
21 Q. And you were there to help?
22 A. Yes.
23 Q. Surely a discussion about Adam's condition and how that
24 would have affected fluid management would have assisted
25 you in both those respects, Dr Montague.

1 A. I accept that, yes.
2 Q. You recall specifically you had been told by the ward
3 doctor that Adam had had a gastrostomy feed during the
4 night of 180 ml per hour.
5 A. Yes.
6 Q. Were you aware that that had ceased prior to theatre?
7 A. I would be aware, as an anaesthetist, that that would
8 have to cease before coming to theatre. Patients need
9 to come with an empty stomach to prevent vomiting and
10 aspiration during induction of anaesthesia. So I would
11 have been aware that it was due to stop.
12 Q. And what would normally be that period of fasting? It
13 would normally be two hours; is that right?
14 A. Well, apparently it was two hours. I would have thought
15 it would be longer, actually, to be without food.
16 It would be longer. The normal would be six hours
17 without food.
18 Q. Okay. But you accept in Adam's case it was two?
19 A. I accept that most children can have clear fluids up to
20 two hours before they start the case. I'm not sure what
21 fluids he did or didn't get --
22 Q. We understand --
23 A. -- up to 5 am.
24 Q. We understand it was Dioralyte. The evidence suggests
25 that it was Dioralyte.

1 A. So that's clear fluid. You can get clear fluid up to
2 two hours before a proposed induction of anaesthesia.
3 Q. And were you aware of that when you were going in to act
4 as anaesthetic assistant?
5 A. No.
6 Q. Sorry?
7 A. No, I wasn't aware that he was on Dioralyte or what
8 fluid or feed he was on.
9 Q. Were you aware that it had stopped at 5 o'clock?
10 A. I was aware that they anticipated stopping it, which is
11 why they were looking to get a cannula in to give him
12 intravenous fluids for that fasting period.
13 Q. Were you aware of any increase in the rate of
14 administration of those clear fluids once the
15 intravenous access was lost?
16 A. No.
17 Q. Do you recall seeing Adam's fluid balance sheet before
18 Adam was anaesthetised?
19 A. No.
20 Q. Is it likely something that you would have looked at?
21 A. I don't remember looking at it.
22 Q. If you're going in to help as an anaesthetic assistant
23 for major surgery, is that a document you would normally
24 look at prior to the child being anaesthetised?
25 A. For a complex case such as Adam's, I think somebody on

1 the anaesthetic team should be looking at that, yes.
2 Q. And would that include the anaesthetic assistant?
3 A. Perhaps it might, but I think somebody should be looking
4 at it.
5 Q. Dr Montague, if you didn't find out about Adam's
6 clinical history and how he had been hydrated prior to
7 surgery, how were you to learn from this experience
8 because you would be going in blind, effectively?
9 MR DUNLOP: Sir, I would say that's not a question on which
10 there has been any expert evidence, the suggestion that
11 he has been going in blind, effectively. He was there
12 for the learning experience. That has been his
13 evidence. The evidence of Dr Haynes was, in fact, that
14 the assistant anaesthetist was not necessary [inaudible]
15 an anaesthetic nurse who was present. I just wonder,
16 suggesting to him that he was going in blind -- he was
17 there for learning -- I'm not sure where that takes us.
18 THE CHAIRMAN: Sorry, he has said he was going in to learn.
19 This was a particularly good opportunity to learn,
20 according to Dr Montague, right? If he's going in to
21 learn, why is Ms Comerton not allowed to ask him how he
22 could learn if he didn't have certain information?
23 MR DUNLOP: Suggesting he was going in blind --
24 THE CHAIRMAN: He can say he wasn't going in blind. That's
25 the answer to the question if that is the answer.

1 A. Particularly as a junior anaesthetist, the things that
2 we're most anxious to learn about are the various
3 procedures that are done. I don't remember -- I wasn't
4 aware how complex his fluid management was or became
5 until after this event.
6 MS COMERTON: Sorry, could you speak up a little? I can't
7 hear.
8 A. I wasn't aware how complex his fluid management was or
9 how complex it became until after this event.
10 Q. Dr Montague, you were aware Adam was at end-stage renal
11 failure.
12 A. Yes.
13 Q. And you were aware that that would have made his fluid
14 management more complex than a healthy child.
15 A. Yes.
16 Q. You were aware that he was polyuric as well and that
17 would have added a further layer of complication.
18 A. I'm aware -- I was aware that he was polyuric. The
19 implications of polyuric renal failure only became clear
20 to me in subsequent years.
21 Q. So at the time you didn't know what polyuric meant?
22 A. I did know what polyuric meant, but I didn't understand
23 what it meant in the context of end-stage renal failure.
24 We would have come across adult patients with polyuric
25 renal failure, generally adult patients who were

1 recovering from acute renal failure in intensive care
2 and polyuric renal failure or polyuria in an adult in
3 those situations. They can produce variable amounts of
4 urine, but it's not of good quality, if you like. It
5 doesn't excrete the waste products that you need to
6 excrete.
7 Q. Yes.
8 A. I have since become aware that in end-stage chronic
9 renal failure with polyuria, that the children often
10 have a fixed renal output. I didn't know that he had
11 a fixed renal output.
12 Q. You weren't aware of that at the time?
13 A. No, I didn't know that and I have only become aware of
14 it in subsequent years.
15 THE CHAIRMAN: Is that something that you would have
16 expected to learn during this operation which was
17 a learning experience for you? Because it would be
18 relevant to fluid management.
19 A. I suppose I went in with this idea that I knew something
20 about polyuric renal failure, but I clearly didn't.
21 THE CHAIRMAN: Since you're there to assist Dr Taylor and to
22 learn from Dr Taylor, is it something that you would
23 have expected to have learned at some stage during that
24 morning when you were with Dr Taylor?
25 A. I suppose if Dr Taylor knew that, perhaps I could have

1 learned from him.
2 MS COMERTON: Do you recall discussing with Dr Taylor at any
3 point Adam's polyuric condition and the effect that
4 might have on fluid management?
5 A. I don't recall a detailed discussion with Dr Taylor
6 about his fluid management on the day.
7 Q. You don't recall a detailed conversation?
8 A. I'm presuming that we had some discussion about fluid
9 management. I can't recall the details of it. I can
10 tell you that we didn't sit down with a piece of paper
11 and put down and organise his fluid management.
12 Q. How was it done then, Dr Montague?
13 A. I don't recall how his fluid management was organised.
14 Q. Do you recall having any idea at all of what the plan
15 was for fluid management when you went in to help
16 anaesthetise Adam?
17 A. Every anaesthetist would have a basic idea of a fluid
18 plan, the fluid plan being to replace any deficits that
19 there were and then to give maintenance fluid,
20 calculated maintenance, and then to replace any losses
21 that were occurring during the surgery or give fluid to
22 replace anticipated losses.
23 Q. So you would have had a general idea of the basic
24 principles of fluid management; is that what you're
25 saying?

1 A. That's what I would have had, yes.
2 Q. And in terms of how those principles varied in their
3 application given Adam's condition, did you have any
4 idea about that?
5 A. I had no input into that. I had no knowledge of that.
6 I didn't have any input into that, no.
7 Q. Well, let's deal with the knowledge.
8 A. Okay, yes. I had -- well, clearly, as I say, I had this
9 idea that he had polyuric renal failure and that he
10 could vary his urine output. He couldn't. I didn't
11 know that. So any knowledge I would have had would have
12 been based on a wrong assumption.
13 Q. And in terms of your input to the fluid management plan,
14 you accept you likely discussed it with Dr Taylor?
15 A. I can't believe that there would have been no mention of
16 fluids during the case.
17 Q. Would you have had to go and get certain fluids to get
18 the theatre set up for the operation? Was that part of
19 your job as an anaesthetic assistant?
20 A. I don't remember whether I would have got fluids ready
21 or whether the anaesthetic nurse would have got fluids
22 prepared before we started.
23 Q. But you may have done?
24 A. I may have done, yes.
25 Q. And blood and so on for any transfusion or anything like

1 that, would you have had to get that organised?

2 A. No. The ward staff would have ordered the blood. I'm

3 sure Professor Savage had a regime for how much blood

4 needed to be cross-matched. That would have been

5 organised hours earlier when he came in first.

6 Q. If we could go to witness statement 009/1, page 8,

7 please. It's question 6(a). You have said originally

8 in your police statement:

9 "I don't remember having any role in planning fluid

10 administration. I remember Adam had polyuric renal

11 failure and that would complicate fluid management."

12 And you talk about what your recollection is as to

13 the fluids he received. Your answer then, when you are

14 asked the way in which his polyuric renal failure would

15 complicate fluid management, was:

16 "A minimal urinary volume of 0.5 to 1 millilitres

17 per kilogram per hour would be expected in normal,

18 healthy children undergoing anaesthesia. Adam's kidneys

19 normally produced significantly more than this volume.

20 This suggests to me that Adam's kidneys did not respond

21 normally to secreted antidiuretic hormone. During

22 anaesthesia and surgery, it is anticipated that extra

23 ADH would be secreted. The manner in which Adam's own

24 kidneys responded to ADH may have made the determination

25 of adequate intravascular volume and thus fluid balance

1 more unpredictable."

2 You have said in that statement that Adam's kidneys

3 normally produced significantly more than this volume.

4 So you had an idea of what Adam's urine output would

5 have been going into theatre.

6 A. I had no idea what his urine output would be.

7 Q. Well --

8 A. Just a moment, sorry. I was told he had polyuric renal

9 failure. That name would suggest he put out more urine

10 than normal and the normal volume is between 0.5 and 1

11 millilitre per kilo. That's the average. And

12 I would -- the only knowledge I would have had was that

13 he had polyuric renal failure. The name would suggest

14 to me that he put out more than that. I couldn't tell

15 you the volume of urine Adam put out. I don't know

16 that.

17 Q. You also mention antidiuretic hormone. Is that

18 something that you learned about from Dr Taylor?

19 A. All anaesthetists learn about antidiuretic hormone.

20 Every patient that comes to theatre, or is ill, is

21 stressed, they produce antidiuretic hormone. So we all

22 learn about that, for adults and for children.

23 Q. Is that something you discussed with Dr Taylor on

24 27 November?

25 A. I don't remember if I did.

1 Q. Would you have expected to discuss it given Adam's
2 medical condition?
3 A. I don't know if we did discuss it because I have this --
4 I had this erroneous impression of what polyuric renal
5 failure meant and I'm presuming ... When I wrote this
6 statement, I was presuming that Adam's kidneys would
7 respond to ADH. That's me in 2011 or 2010 presuming
8 that ADH might have had an effect on Adam's kidneys.
9 I don't know whether it could or did. I presume it
10 didn't because he had a fixed urine output. I know that
11 now.
12 Q. So this statement doesn't reflect your knowledge in
13 1995?
14 A. No. Well, it partly does because I think my error in
15 understanding about polyuric renal failure in chronic
16 renal failure is still there. I'm still wondering about
17 the effect of ADH. I now know these children have
18 a fixed urine output and would not be affected by ADH or
19 the volume of fluid that was administered to them.
20 Q. Dr Taylor has put in a statement in February, dealing
21 with the urine output that he calculated Adam to have
22 and he had calculated it to be 200 ml an hour.
23 A. Yes.
24 Q. What is your recollection of that in relation to
25 27 November 1995?

1 A. I don't remember if we discussed or decided that Adam
2 had an urine output of 200 ml an hour. I don't know if
3 Dr Taylor articulated that to me on that night or that
4 morning.
5 Q. If you were planning Adam's fluid regime or discussing
6 it or it was being explained to you, that is a very
7 basic factor that fits into the equation in terms of
8 fluid management; isn't that right?
9 A. That's right, yes.
10 Q. So it would be hard to plan someone's fluid regime
11 without mentioning urine output?
12 A. I take your point, but I don't remember if that was
13 discussed. I don't remember.
14 Q. My question to you is: how could you have engaged in any
15 discussion about fluid management without mentioning
16 Adam's urine output?
17 A. And I'm accepting that we may have, but I don't honestly
18 remember if we discussed, if Dr Taylor discussed with me
19 and said, "I believe Adam will have an urine output of
20 200 ml an hour".
21 Q. Had you ever come across a child with that level of
22 urine output before?
23 A. To my knowledge, no.
24 Q. Have you since?
25 A. I don't think so, no. Sometimes you do. In very

1 abnormal situations you would have a child that could
2 have an urine output of 200, 300, 400 ml an hour. In
3 a child that has -- that's brain-dead, they often
4 produce ... It's one of the things -- you damage the
5 regulatory mechanisms, so you would occasionally.
6 THE CHAIRMAN: Can you think that if there had been
7 a discussion about 200 ml an hour, that that would not
8 have struck you as being extraordinary?
9 A. I think in 2012, yes, but in 1995 I would not have known
10 the details of chronic renal failure in children. It's
11 a huge volume. I accept that that's a huge urine
12 output.
13 THE CHAIRMAN: For a four-year-old boy?
14 A. Yes.
15 MS COMERTON: As an assistant anaesthetist, Dr Montague,
16 do you accept that if you had any concerns either before
17 or during the anaesthetic, that you would have raised
18 them with Dr Taylor?
19 A. I think I would. I mean, I wasn't there as a spectator.
20 I was a doctor and I would have had a duty to look out
21 for the patient.
22 Q. Yes.
23 A. So if I had some concerns, I would be obliged to raise
24 them with Dr Taylor. And as I said, as you pointed out,
25 I knew Dr Taylor from 1990. I'm sure I would have been

1 able to ask a question or raise something with him.
2 Q. So if you were in any way concerned about the
3 calculation of urine output, you think that's something
4 that you would have raised?
5 A. If I was concerned.
6 Q. But is your evidence that you don't think you had the
7 knowledge at that time to reach any concern or level of
8 concern about it?
9 A. I don't honestly believe I had the knowledge, and
10 I don't remember whether we had a discussion or whether
11 200 ml of urine output was mentioned.
12 MS COMERTON: Would this be an appropriate time,
13 Mr Chairman?
14 THE CHAIRMAN: Yes. We'll take a break. I think you know
15 the routine, doctor: we have to take a break for about
16 15 minutes.
17 (11.30 am)
18 (A short break)
19 (11.50 am)
20 MS COMERTON: Dr Montague, first of all, we have copies of
21 Dr Bedi's statement, but I think they're hard copies as
22 opposed to electronic. So I apologise for that. I'm
23 not sure if everyone else has been given them. It's
24 witness statement 192/1, page 2, Mr Chairman.
25 THE CHAIRMAN: Thank you.

1 MS COMERTON: There we go, page 2. Question 1, whether he
2 had acted as a trainee anaesthetist assisting Dr Taylor
3 in Adam's transplant. His answer:
4 "I have no recollection of this case."
5 2 is whether he can identify the person who did act
6 as trainee anaesthetist:
7 "I am not able to identify the trainee in question."
8 3:
9 "Insofar as you can, identify the persons who were
10 employed as trainee anaesthetists in the Children's
11 Hospital in 1995."
12 And he works from an examination of the theatre
13 ledger and names himself, Dr McBrien, yourself, Dr Hill
14 and Dr Rao. And then finally:
15 "Identify the trainee anaesthetists who were on duty
16 on 27 November."
17 He says:
18 "From the theatre ledger, the on-call trainee
19 appears to be Dr McBrien."
20 And we have already referred to his statement, so
21 that covers that.
22 A. Just for your information and for completeness, Dr Rao
23 was a locum consultant and was not one of the trainees
24 in the hospital.
25 Q. That's very much, that's helpful.

1 THE CHAIRMAN: Sorry, that means there were two locum
2 consults because I think Dr Campbell was another locum
3 consultant. Does this reflect what you were talking
4 about that someone had left or retired so there was
5 a bit of a gap to be filled?
6 A. There had been a number of changes in the anaesthetic
7 personnel around that time and they kind of happened
8 together, so they were short of consultant anaesthetists
9 at that time.
10 THE CHAIRMAN: Thank you.
11 MS COMERTON: Two matters I want to check with you,
12 Dr Montague.
13 On 27 November, either before or during the
14 transplant procedure, were you aware that Adam had been
15 dialysed overnight before surgery until 6 am?
16 A. I don't know if I was aware of that. I don't know.
17 Q. That obviously would be a pertinent factor for any
18 anaesthetist to consider when trying to manage a child's
19 fluids during surgery; isn't that right?
20 A. That's right.
21 Q. Especially one with renal failure?
22 A. Yes.
23 Q. So would you accept it's probably likely that you were
24 aware of it?
25 A. I accept it's likely that I would have been aware that

1 he was on dialysis. I don't know at this point in time
2 whether I was aware that he had dialysis the night
3 before. I don't know whether he was having dialysis
4 every night of the week.
5 Q. Yes. You weren't aware of his dialysis regime?
6 A. No, I wasn't.
7 Q. Secondly, were you aware that Adam had a previous
8 history of sodium imbalance and his serum sodium
9 concentrations were out of the normal range at times?
10 A. I was not aware of that.
11 Q. You weren't aware of that.
12 THE CHAIRMAN: On these two points about overnight dialysis
13 and his history of sodium imbalance, you're not saying,
14 "I don't remember if I knew about them or not", you're
15 saying you didn't know about them?
16 A. The dialysis, I can't recollect if I knew that he had
17 overnight dialysis.
18 THE CHAIRMAN: Right.
19 A. The sodium balance, his having an abnormal sodium
20 balance, I have come to be aware of that from reading
21 the various transcripts. I was not aware of that at the
22 time.
23 THE CHAIRMAN: Thank you.
24 MS COMERTON: And again, that would be a pertinent factor
25 for any anaesthetist to be aware of when considering

1 fluid management for a child during surgery?

2 A. Yes.

3 Q. Thank you.

4 I had asked you about the start time, your awareness

5 of the start time of surgery, and if you have read the

6 transcripts, you may be aware that some evidence was

7 given that initially there was a plan or a potential

8 plan to start the transplant surgery in the early hours

9 of the 27th.

10 A. Yes.

11 Q. And then, once the cross-matches results came back, that

12 was changed and it was then planned to start at around 6

13 and it actually started at around 7.

14 A. Yes.

15 Q. On 27 November 1995, had you been aware of those planned

16 start times and the change from 6 to 7?

17 A. No.

18 Q. So so far as you were aware, it was always starting at

19 7?

20 A. As far as I was aware, yes, but I don't recall the

21 conversation. I don't recall the detail of the

22 conversation that I had with Dr Taylor that suggested it

23 was 7 o'clock. But I don't remember any -- I don't

24 remember being told, "Oh, it's 6", and then being told,

25 "Now it's 7". I just -- I think I just knew it was at

1 7.
2 Q. Thank you. Do you recall whether you had any discussion
3 with Dr Taylor about the donor kidney?
4 A. I don't recall any conversation about the donor kidney.
5 Q. Or the cold ischaemic time?
6 A. I don't remember and I don't believe I had any knowledge
7 of the cold ischaemic time of that kidney.
8 Q. Thank you. Your role as anaesthetic assistant in
9 theatre would include helping prepare medication and
10 drugs; isn't that right?
11 A. That's correct.
12 Q. And also you have mentioned some equipment, the tube
13 that you would have been preparing.
14 A. Yes.
15 Q. As an anaesthetic assistant, would you also assist in
16 monitoring Adam and assisting with his anaesthetic
17 management during the surgery itself?
18 A. Yes.
19 Q. So you were another pair of hands and eyes for
20 Dr Taylor?
21 A. Yes.
22 Q. You're quite clear that you had no contact or
23 communication with Adam or his mother prior to his
24 arrival in theatre?
25 A. I never spoke to Adam's mother. I never saw Adam on the

1 ward. I was in the anaesthetic room when Adam came into
2 theatre with his mother.
3 Q. Yes.
4 A. I didn't go into theatre when he was put to sleep.
5 I didn't want him to be frightened by a big crowd around
6 him. I didn't need to be there at the moment he was put
7 to sleep. I was in the anaesthetic room and when his
8 mother came out of the theatre with the nurse, I went
9 into the theatre. So I have never actually spoken to
10 Adam's mother.
11 Q. Okay. I'm going to ask you a question and then come
12 back to it. What type of nurse came out of theatre with
13 Adam's mother? Was it a theatre nurse or a ward nurse?
14 A. I don't remember.
15 Q. But there was definitely a nurse accompanying her?
16 A. A nurse would always accompany a parent leaving the
17 theatre complex. A nurse would always take them, direct
18 them and comfort them.
19 Q. Thank you. Did you read Adam's medical notes before
20 he was anaesthetised?
21 A. No, I did not.
22 Q. Would it have been your normal practice in 1995 as an
23 anaesthetic assistant to do so?
24 A. I would. Someone of the team would do that. So if
25 I was anaesthetising the patient by myself, I would have

1 looked at their notes.
2 Q. When you say "the team", who does that consist of?
3 A. Well, Dr Taylor and myself, the anaesthetic team.
4 It would be normal for some member of the anaesthetic
5 team to have gone through the patient's history.
6 Q. Okay.
7 THE CHAIRMAN: Just on that, for this particular operation,
8 given it was something which was, if I may say so, a bit
9 out of your field and beyond your experience, would you
10 have expected that Dr Taylor would certainly have done
11 that in this case?
12 A. Yes, I would have expected that Dr Taylor would have
13 some knowledge of Adam's history, would have looked
14 at -- it wouldn't be possible to look through all of the
15 volumes of his chart that morning. I know that a number
16 of times there have been questions about whether or not
17 Dr Taylor -- who saw the child preoperatively. I have
18 a memory of Dr Taylor coming in the door of theatre from
19 the ward. That's a memory that I have, but I worked
20 in the hospital for six months and it could be that it
21 is some other occasion that I remember him coming
22 through the door.
23 THE CHAIRMAN: It seems to be an example of your memory
24 playing a trick on you because what we do know is that
25 Dr Taylor didn't go to the ward.

1 A. That's what I have subsequently discovered, but before
2 I started reading the transcripts I would have said that
3 Dr Taylor went to the ward because I have that memory of
4 him coming through the door.
5 MS COMERTON: Could I refer to witness statement 008/2,
6 page 10, please? It's question 18(b). This is
7 Dr Taylor's second witness statement and he had
8 originally made a comment:
9 "I cannot remember the exact reasons why Adam's
10 surgery did not start at 6 as originally planned. I can
11 only speculate that it took a considerable amount of
12 time to work out an agreed management plan and review
13 previous notes despite my very early attendance at the
14 hospital that morning."
15 So he's asked:
16 "Describe those involved in working out the agreed
17 management plan and what previous notes were being
18 reviewed as part of formulating that agreed plan."
19 His answer is:
20 "Dr Montague and myself agreed this plan after we
21 had read the patient notes, in particular his previous
22 anaesthetics, background, blood results and fluid
23 charts."
24 MR UBEROI: Sir, can I say for completeness, I'm not sure
25 that's a piece of evidence that was repeated orally, and

1 obviously, since then, we certainly know that Dr Taylor
2 has taken full responsibility for the calculation of the
3 fluids himself. So I think, again, it's a question that
4 needs to be put to the witness in full context, sir.
5 THE CHAIRMAN: I think you have followed the transcript of
6 Dr Taylor's evidence?
7 A. Yes.
8 THE CHAIRMAN: So Dr Taylor has accepted responsibility for
9 this, but he did not say -- in hindsight, maybe he could
10 have been asked can, but he certainly did not say that
11 he did not have any of these discussions after he and
12 Dr Montague had read through the patient notes. I think
13 there's a difference, at least potentially, Mr Uberoi,
14 between Dr Taylor saying, "Look, hands up, this was my
15 fault", on the one hand, and saying, on the other hand,
16 "It's my fault, but I involved the anaesthetic assistant
17 in this exercise", and, "Ultimately, if we got it wrong,
18 it's my responsibility because I'm the consultant".
19 There's two slightly different points.
20 MR UBEROI: I do understand that, sir. In the spirit of the
21 inquiry, I'm perfectly happy for the question to be put.
22 Dr Taylor may not have been asked that in his oral
23 evidence. I don't remember off the top of my head.
24 That's why I make the point.
25 MS COMERTON: Have you any comment to make about that

1 answer, Dr Montague?

2 A. As I said to you a few moments ago, I did not read his

3 notes.

4 Q. You have a clear recollection that you did not read his

5 notes?

6 A. I have a clear recollection that I did not read his

7 notes.

8 Q. One of the other things that I wanted to ask you about

9 was your witness statement 009/2, page 5. That's

10 question 9(b), page 5 and 6. This is your witness

11 statement, Dr Montague, and you're talking about the

12 CVP, that it was difficult to site the catheter and that

13 you understood Adam had undergone previous surgery to

14 his neck and you're asked the source of your knowledge

15 for that statement. You say at the top of page 6:

16 "As far as I can recall, Dr Taylor noted that Adam

17 had undergone surgery to his neck veins in the past (and

18 that some of these veins had been ligated), which

19 probably accounted for the difficulty in siting a CVP

20 line."

21 Before Adam was anaesthetised, did you and Dr Taylor

22 discuss Adam's previous surgery to his neck veins?

23 A. I don't remember a discussion about that.

24 Q. At any point?

25 A. Before he was anaesthetised, I don't remember

1 a discussion about that.
2 Q. Was there a discussion about that when you were trying
3 to site the CVP line?
4 A. I don't know whether I'm aware that Adam had surgery to
5 his neck veins from the transcripts or from my memory of
6 the night. It was a long time ago, so I don't remember
7 that. I do remember there was some difficulty siting
8 the CVP line.
9 Q. This is from your second witness statement, which was
10 dated 22 July 2011, so it would have been before you
11 read any transcripts.
12 A. There were other statements on the website. But
13 I honestly don't know what --
14 Q. You can't tell us the source of your knowledge?
15 A. I can't tell you. I honestly can't.
16 Q. Okay.
17 A. But I remember that the CVP line, it was difficult to
18 get the line sited.
19 Q. Yes. And it was Dr Taylor who was siting that line;
20 isn't that right?
21 A. Yes, it was.
22 Q. Yes. You dealt with the epidural; isn't that right?
23 A. That's correct.
24 Q. Thank you. The other part of your witness statement
25 I wanted to refer to was 009/2, page 3. It's 3(f) and

1 you are asked whether the operating theatre equipment
2 was checked prior to the operation. This is your second
3 witness statement again. You say:
4 "I cannot provide accurate details about this after
5 such a long time. It was customary for either the
6 medical technician or the anaesthetist, or sometimes
7 both, to check the anaesthetic machine."
8 Do you have any recollection at all of whether you
9 were involved in checking the anaesthetic machine?
10 A. I don't recollect who checked the anaesthetic machine.
11 Q. That may have been part of your duties as anaesthetic
12 assistant; is that right?
13 A. It may have been, yes.
14 Q. Thank you. Do you recall any conversation with
15 Dr Taylor about inserting a urinary catheter?
16 A. I don't recall any conversation about the urinary
17 catheter.
18 Q. At all, either between yourself and Dr Taylor? What
19 about between Dr Taylor and Mr Keane?
20 A. I don't remember a conversation on that morning about
21 a urinary catheter with anybody.
22 Q. Thank you. You have mentioned the anaesthetic nurse in
23 your evidence and you've already said when Adam was
24 brought to theatre, you were in the anaesthetic room.
25 A. Yes.

1 Q. When Adam was anaesthetised, do you recall there being
2 a nurse who was acting as an anaesthetic nurse in
3 theatre at that time?
4 A. I don't recall who was in the theatre. I don't recall
5 any of the nurses, I don't recall their names or their
6 faces.
7 Q. But in terms --
8 A. It would have been customary to have three nurses on for
9 emergencies.
10 Q. And this was an emergency?
11 A. Well, it was out of hours. It was an unplanned case,
12 yes.
13 Q. And the three nurses would normally be the scrub nurse,
14 the runner and the anaesthetic nurse; is that right?
15 A. That's my memory of what would have been normal at that
16 time, yes.
17 Q. Would there also have been a medical technical officer
18 normally to assist in theatre with the anaesthetic
19 duties?
20 A. I don't remember whether the medical technical officers
21 came in for all of the cases. There was a medical
22 technical officer on call. They generally were involved
23 with intensive care. During the daytime, they would
24 have been around the theatre, helping, checking the
25 machines, helping with some of the technical equipment.

1 But I don't recall whether they were on call or would
2 have been called in for a case like this. I don't
3 remember.
4 Q. Okay. Do you recall anyone fulfilling that role in
5 theatre during Adam's surgery?
6 A. Personally, I don't. I clearly know that you've spoken
7 to somebody about that, but I don't remember which one
8 of the technical officers was on call.
9 Q. Thank you. Do you recall there being an auxiliary nurse
10 in theatre at any time?
11 A. I don't know which nursing personnel were there,
12 qualified or auxiliary.
13 Q. Thank you. Do you recall Professor Savage being in
14 theatre?
15 A. I'm not sure that I do. I don't remember that for sure.
16 I wouldn't have known Professor Savage. He wouldn't
17 have known me. We didn't really know all of the
18 paediatricians, as anaesthetists. We would have known
19 the surgeons. So I don't recall whether professor --
20 Q. And you knew both surgeons, Mr Keane and Mr Brown?
21 A. I knew Mr Brown and Mr Keane. I knew Mr Keane because I
22 was a trainee at the City Hospital and that was where he
23 was a senior registrar and I knew Mr Brown because he
24 worked in the Ulster Hospital for the two years that
25 I was there. I would have done some lists that he did

1 and then I have been in the Children's for a month at
2 that stage.
3 Q. Thank you. One matter that I would like to try and
4 clarify, Dr Montague, is in which theatre you recall
5 Adam's transplant surgery taking place. There is a map
6 that we have been referring to. It's 300-005-005. I'm
7 not sure if you heard any of this evidence, it would
8 have been in the transcripts, but we understood and had
9 been informed by the DLS that the theatre marked red
10 was, in fact, the theatre that Adam's transplant surgery
11 occurred in and that the other list that we had referred
12 to with Dr Campbell and Dr Hill was occurring in the
13 green shaded area. But other witnesses to date have
14 different recollections of that.
15 A. Yes.
16 Q. Do you recall in which theatre Adam's transplant surgery
17 took place?
18 A. I am absolutely certain that it took place in that green
19 theatre.
20 Q. And do you know what number that theatre was known as at
21 that time?
22 A. I have no idea. I can't remember. But that was the
23 main theatre that was used for emergency cases, for
24 out-of-hours cases. That was the main theatre, if you
25 like, and we used that theatre for most work.

1 Q. So was the red theatre the one that the normal list
2 would have been going on --
3 A. The red list was -- my recall of six months in the
4 Children's Hospital was that the red theatre was the one
5 that you used least. You used that green one and the
6 other theatre just down there --
7 Q. On the right-hand side?
8 A. Yes.
9 Q. So if you recall that Adam's surgery occurred in the
10 green theatre, do you recall where the routine Monday
11 morning list was taking place?
12 A. I don't, but I've always presumed that it took place
13 in that right-hand theatre.
14 Q. The non-coloured --
15 A. I don't have any memory of that list. I wasn't involved
16 in it.
17 Q. Some people have referred to "theatre 2". Would you
18 have known any of those theatres by that number?
19 A. I don't remember. It's such a long time ago. But I'm
20 certain that that green theatre is where the transplant
21 took place.
22 Q. So the anaesthetic room that you've referred to, if
23 you were in the green theatre, where would the
24 anaesthetic room be marked on that plan?
25 A. It says, "Anaesthetic", A-N-A-E-T-H, down --

1 Q. Below?
2 A. Below --
3 Q. Yes.
4 A. -- that one that's highlighted now. That was the main
5 anaesthetic room and that served those two theatres --
6 Q. Yes.
7 A. -- so it was a common anaesthetic room.
8 Q. Yes.
9 A. And the door is up to the left from that, the door out
10 to the ward, and that's the door that Adam and his
11 mother came in through and I saw them leaving by that
12 door.
13 Q. Thank you.
14 You had mentioned that a nurse had taken Adam's
15 mother out of theatre. Do you recall specifically which
16 kind of nurse had taken Adam to theatre? It would be
17 customary practice for a nurse to accompany the child
18 and the mother to theatre; isn't that right?
19 A. That's right.
20 Q. Do you recall whether it was a ward nurse or a theatre
21 nurse?
22 A. I don't recall and I have seen evidence about that and
23 people have different memories. I don't recall who
24 it would have been.
25 Q. Could the anaesthetic nurse have gone up to the ward to

1 get Adam and bring him down?
2 A. In theory, I suppose they could, but I don't know.
3 Q. Had you ever seen that happen before?
4 A. I can't remember. I can't remember whether the nurses
5 from theatre went or not. I really don't remember.
6 I've worked in a lot of different theatres, so ...
7 Q. In relation to the anaesthetic agents, do you recall
8 what you did to prepare the anaesthetic prior to Adam
9 coming into theatre?
10 A. I honestly don't remember whether myself or Dr Taylor
11 prepared the drugs. I could have. I have no doubt that
12 I could have. They would have been prepared in that
13 anaesthetic room. We would have drawn up the drugs that
14 were used to put Adam off to sleep.
15 Q. Dr Montague, was there normally a prescription for the
16 anaesthetic drugs --
17 A. No.
18 Q. -- that you could work from when you were getting them
19 ready?
20 A. We knew the doses, the doses are done by body weight,
21 per kilo, so I would have known the doses.
22 Q. Was that something that you would have been told by
23 Dr Taylor?
24 A. It's something we would have learned in our training.
25 It's part of your training. Not just in children's, for

1 my exams, for everything, for every case with did we
2 calculated the dose --
3 Q. Yes, but --
4 A. -- based on the patient' weight.
5 Q. -- for you to have calculated the dose in this case, you
6 would have needed to have known Adam's particular
7 weight; isn't that right?
8 A. Actually, there is a formula that most people use to
9 guess or estimate a child's weight, and that's what you
10 would do before the child came. You would estimate the
11 child's weight based on their age and you would prepare
12 drugs based on that estimated weight. The drugs are not
13 given as -- it's not absolutely formulaic. You have to
14 give -- there's a range of what you can give.
15 Q. Yes.
16 A. You can draw up more than you need if you like, in
17 a syringe, and you can give what you need.
18 Q. Okay. Would you have adjusted that estimate once you
19 knew Adam's actual weight?
20 A. Well, actually you're looking for the effect. You want
21 the child to go to sleep, so you would give as much as
22 you needed to get the child off to sleep.
23 Q. And it was Dr Taylor who anaesthetised Adam and so he
24 made that decision?
25 A. It was Dr Taylor who put Adam to sleep, yes.

1 Q. In relation to the insertion of the CVP line, you
2 assisted with that and you've said already that you
3 recall there was a degree of difficulty siting the line;
4 isn't that right?
5 A. That's correct.
6 Q. You've said in your witness statement 009/3, page 3,
7 question 4(a):
8 "I would have helped get Adam into the correct
9 position for a line insertion. I may have poured out
10 the skin cleaning solution or may have got the heparin
11 solution used to flush the line."
12 You are talking about the insertion of the central
13 venous line there.
14 A. Yes.
15 Q. What is the correct position for line insertion?
16 A. You generally have a patient slightly head down so that
17 the vein is filled and their head turned to one side.
18 Some people like a roll or something underneath the
19 shoulder to extend the neck. It would depend on the
20 size of the patient. It sometimes could be helpful.
21 Q. Did Adam remain in the head-down position, with his head
22 to one side, during the surgery?
23 A. I don't remember whether he did or not.
24 Q. If he was going to change position, would you have
25 assisted in that as the anaesthetic assistant?

1 A. Well, one of the anaesthetists would have adjusted the
2 position of the bed.
3 Q. Yes. I've been asked to raise one issue. It's
4 reference 011-002-006. It's the last paragraph, it's to
5 do with position, four lines up from the bottom, there's
6 a suggestion that the table was raised 5 to 6 inches for
7 surgical reasons, and this is to do with the CVP:
8 "The sudden increase in CVP to 28 occurred when the
9 table was raised 5 to 6 inches for surgical reasons, but
10 the transducer was attached to a drip stand and thus an
11 artefact occurred."
12 Do you recall the surgical table being raised at any
13 point during surgery?
14 A. I don't recall it being raised, but the position of the
15 table is often changed during surgery, depending on the
16 height of the surgeon or what -- different moments
17 during the surgery. So it would not be unusual.
18 It would not be a remarkable event for us to actually
19 adjust the height or the position of the table.
20 Q. Okay. But you have no recollection of that happening?
21 A. I have no recollection of a specific change on that day.
22 Q. At the time of the start, of knife to skin, of surgery,
23 were you present in theatre at that time?
24 A. I think I may have been, but I don't actually recall
25 whether I was or not, but I think I probably was.

1 Q. Well, the evidence has suggested that the start time of
2 knife to skin, surgery, was about 8 o'clock on the 27th
3 and you accept you would have been there at 8 o'clock;
4 isn't that right?
5 A. I accept I would have been there at 8 o'clock. I'm not
6 sure that knife to skin was at 8 o'clock.
7 Q. You don't have any recollection when it was?
8 A. I don't have any recollection, but I know from my own
9 experience that it takes some time to prepare a child to
10 have a -- a child who has difficult intravenous access
11 or to get an intravenous line in, to get an arterial
12 line in, to get a central venous pressure line in --
13 particularly a line that was difficult -- and to put in
14 an epidural and then do other preparation before the
15 surgery would start, I would think that 8 o'clock is
16 unlikely in my opinion.
17 Q. What time did you arrive at theatre on the 27th?
18 A. I don't remember when time I arrived.
19 Q. How long do you recall it taking to get all of those
20 things done, the central line, arterial line, epidural?
21 How long did that take?
22 A. I don't know. On that day, I don't know how long it
23 took, but it must have taken some time particularly if
24 it took -- three different sites were tried to get
25 a central line. You prepare one side [sic] and you try

1 to do it. It's a blind procedure, you cannot see the
2 vein, you're trying to go by normal anatomy. The
3 anatomy was probably distorted because he'd had surgery
4 to his neck veins. You then prepare another site and
5 try the other site and it's all a sterile preparation,
6 and then he prepared -- a third site was used. So that
7 all takes time. It takes time to put in a central line
8 and secure it and -- so I don't believe it could have
9 started at 8 o'clock.
10 Q. The nursing note suggests that Adam was taken down to
11 theatre at 7.
12 A. Yes.
13 Q. So you're saying you believe, although you can't
14 actually remember, that it would have taken more than
15 an hour?
16 A. Yes.
17 Q. How long do you think it would have taken?
18 A. I imagine it could have taken a hour and a half, maybe.
19 THE CHAIRMAN: So that I understand it, you're not debating
20 whether it was five minutes either way, what you're
21 really saying is that you think that if Adam was taken
22 into theatre at 7, it took considerably longer than
23 an hour for him to be ready for knife to skin?
24 A. In my opinion, yes. I don't remember the specifics of
25 that morning, but I know -- I'm still working in

1 children's anaesthesia and I know how long it takes to
2 do all of those procedures. The epidural is done in
3 a sterile way, you have to scrub and prepare the area
4 and the same for the central line. And if he had a line
5 inserted or attempted in three different locations
6 you have to prepare each one separately. I don't
7 believe that he would have been ready at 8 am. But I
8 can't say -- I don't remember the exact time that we
9 started.
10 MS COMERTON: If you and Dr Taylor were assisted by an
11 anaesthetic nurse and medical technical officer, would
12 it have taken less time than had the two of you just
13 been working on your own?
14 A. I don't think it would have taken significantly less,
15 no. The bulk of the time is taken in prepping the skin,
16 applying the dressings, trying to get the line in.
17 Q. Is there an order in which you carry out these things,
18 in the sense that do you put the arterial line in first,
19 then you do the epidural?
20 A. There's no strict order, but I would imagine the logical
21 thing for me would have been the peripheral line, the
22 arterial line, then the central line and lastly the
23 epidural.
24 Q. How long does it take to put in an epidural?
25 A. Well, I had never put one in in a child before, so it

1 might have taken me a little longer.

2 Q. How long does it normally take to put in an epidural?

3 A. By the time you prep and draw up your drugs, it takes 20

4 minutes.

5 Q. But you would have been there getting the drugs ready

6 before 7 am.

7 A. You do that in a sterile way. You draw up the drugs in

8 a sterile way so you have to wait and get scrubbed up,

9 put your gown on, then you draw up the drugs, prep the

10 skin, put on the drapes, find the epidural space, tape

11 it up, flush it and make sure it's in the right

12 position. That takes time.

13 Q. So when you were drawing up drugs in the anaesthetic

14 room, they weren't the epidural drugs?

15 A. No.

16 Q. So you were prepping the epidural drugs in theatre?

17 A. Yes.

18 Q. When did you scrub up?

19 A. I don't know. I'm presuming, as I said to you, the

20 logical order for me would be -- I don't have a specific

21 memory of that night, but the logical order would be the

22 peripheral line, the arterial line, the central line,

23 and then I would have scrubbed to put in the epidural.

24 Q. So you don't scrub before you put in the peripheral

25 line?

1 A. No, no.

2 Q. Well, could I refer you to 011-028-132? This is the

3 printout -- it's a compressed printout -- and the bottom

4 trace is the CVP.

5 A. Yes.

6 Q. And you'll see it is 27 November, between 7 and 12, so

7 this is the compressed trace we have for Adam's surgery.

8 Have you seen it before?

9 A. No.

10 Q. You'll note that the trace line is flat just before 7.30

11 and then it starts nearly halfway or almost halfway

12 between 7.30 and 8 o'clock, and that trace continues

13 then. There are drops in the trace at different points,

14 but if you were going to estimate it, you might say it

15 started at 7.45 or 7.50, would that be fair enough?

16 A. It's a guess, but roughly, yes.

17 Q. So it's clear that the CVP line was in 10 or 15 minutes

18 before 8 o'clock.

19 A. Sure.

20 Q. So is it not possible then that all of the anaesthetic

21 tasks may have been carried out by 8 o'clock on that

22 basis?

23 A. It may be possible. I don't believe it's likely.

24 Q. You would have been familiar with CVP readings as an

25 anaesthetist; isn't that is right?

1 A. That's correct.
2 Q. And that's something that you would monitor during
3 surgery and you would have done that in your month at
4 the Children's Hospital in November 1995?
5 A. I think -- I would have been familiar with CVPs.
6 I would have seen significantly more CVPs in adults.
7 I'm not sure if this was the first CVP I had seen in
8 a child. It is unusual to have to put them in.
9 It would have been unusual in the Children's Hospital to
10 have had to put them in for surgery.
11 Q. So whenever you were conducting -- we've mentioned the
12 appendectomy before on 15 November -- you wouldn't have
13 been putting in a CVP for that?
14 A. No.
15 Q. When would you put one in?
16 A. In complex cases that were going to have risk of
17 cardiovascular instability or large fluid losses.
18 Q. Does that mean more prolonged surgery or just more
19 complicated?
20 A. More complicated, generally.
21 Q. Right. Were you familiar with --
22 A. I had never put in a CVP line in a child at this stage.
23 I'd been an anaesthetist for five years, I had never put
24 in a CVP line in a child and I don't think I put a CVP
25 line in a child in the six months that I was in the

1 Children's Hospital. So it didn't happen that often in
2 the theatre. It happened more often in intensive care.
3 But I was familiar with CVP lines in adults and CVP in
4 general.
5 Q. Sorry, CVP?
6 A. In general. The principles involved in central venous
7 pressure monitoring.
8 Q. Do you recall discussing the CVP readings in theatre
9 with Dr Taylor that morning?
10 A. I have no recall of a discussion about the CVP with
11 Dr Taylor.
12 Q. Would you have known the normal range for a CVP in
13 a child?
14 A. I think I probably would, yes.
15 THE CHAIRMAN: What is that normal range, doctor?
16 A. In a anaesthetised child it probably is around 8, 8 to
17 10 is what I would say in an anaesthetised child.
18 MS COMERTON: 8 to 10 what, centimetres of water?
19 Q. What about millimetres of mercury?
20 A. We normally measure CVP in centimetres of water.
21 Q. If you were going to convert it --
22 A. You'd divide it by 1.3.
23 Q. I will have to calculate that.
24 A. It's not far off the same kind of value, you know.
25 You're not dealing with -- it's roughly the same.

1 THE CHAIRMAN: It's not centigrade to Fahrenheit?
2 A. No, you don't need anything more complicated.
3 MS COMERTON: Do you recall having any concern about the CVP
4 readings during your presence in theatre that morning?
5 A. I know from the transcripts that the CVP was 17 at the
6 start. I don't have a recall of the number being 17
7 when I was there, so I don't -- and I don't recall the
8 number, I don't recall Dr Taylor being unduly worried
9 about that number, whatever it was.
10 Q. I wonder if we could put up two pages. Let's just try
11 one for the minute, 307-006-065. This is a document
12 that has been created by the legal team and it's
13 a summary of the CVP readings during Adam's surgery from
14 7 until 12.
15 A. Yes.
16 Q. So the last one, at 12, was in intensive care.
17 A. Yes.
18 Q. And you'll see the start of them, about 7.45.
19 I understand if you convert it to millimetres of
20 mercury, 8 to 10 divided by 1.3 is 6.15 to 7.69. Does
21 that sound right to you?
22 A. Roughly. They're more or less the same.
23 Q. So that was the normal range?
24 A. Yes.
25 Q. Were you aware, Dr Montague, that during paediatric

1 renal transplant, there may be times at which the CVP
2 level might want to be elevated at certain points? Were
3 you aware of that in 1995?
4 A. I was aware of the principle of, during renal
5 transplantation -- as I said, I was involved in some
6 cases in the City Hospital. Before the clamps are
7 removed, it is advisable to have the CVP elevated to
8 make sure that the patient has adequate volume.
9 Q. Yes. To what range were you aware that the CVP should
10 be elevated at the point the clamps are removed?
11 A. I don't remember a figure.
12 Q. Would you have known that in 1995?
13 A. I don't believe I would. As I say, I was involved with
14 three or four. I don't know exactly how many
15 transplants I assisted in in my time in the City
16 Hospital. I remember that the nephrologists in the City
17 Hospital were hovering during a case. They were almost
18 ever-present until the clamps were released and they
19 were very concerned about the CVP. That was their major
20 concern: what's the CVP? So I knew the CVP people
21 wanted the CVP to be elevated prior to the clamps coming
22 off.
23 Q. So you knew the CVP was crucial?
24 A. I knew the CVP was important.
25 Q. It was important both to the nephrologists and it was

1 important to the surgeon; isn't that right?
2 A. It was important to the whole team.
3 Q. Yes. And to the anaesthetist?
4 A. Yes.
5 Q. And you have no recollection at all of any discussion
6 with Dr Taylor in relation to the CVP, whether it be the
7 starting point or the level at which you would want to
8 be at whenever the clamps were released?
9 A. That's absolutely right. I have no recollection of
10 that, no.
11 Q. Do you accept that it's highly likely you must have
12 discussed that?
13 A. I don't know. I don't honestly know.
14 Q. Because the CVP management for paediatric renal
15 transplant is quite particular to this kind of
16 operation; isn't that right?
17 A. I have done one renal transplant in my life.
18 Q. But you have been present for a number of adult ones.
19 A. Yes, and that was in 1990/91. I don't remember what CVP
20 they were looking for. I don't remember what CVP --
21 what our target CVP when clamps were released was for
22 Adam. I wasn't there at that point.
23 Q. We'll come to that later.
24 A. Sure.
25 Q. Well, on your evidence, if the normal range is between 6

1 and 7, if you look at that table, if you were to have
2 seen the CVP readings on 27 November, all of those
3 readings are well above the normal range; isn't that
4 right?
5 A. That's correct, yes.
6 Q. Would they likely have caused you alarm?
7 A. They're likely to have told me that it wasn't in the
8 right place, that the line wasn't giving a accurate
9 reading.
10 Q. Mm-hm. Do you recall raising any concern with Dr Taylor
11 about this at any point at all while you were in
12 theatre?
13 A. I don't. I don't remember the actual value of the CVP
14 and I don't remember any concern about the CVP when
15 I was in theatre.
16 Q. If you had seen those values on the monitor, do you
17 think you would have said something to Dr Taylor?
18 A. I imagine there would have been some discussion about
19 it, yes. But I don't -- I cannot recall -- I didn't
20 recall those values until I read the transcripts, and as
21 I said earlier, I don't remember there being alarm about
22 the CVP when I was there.
23 Q. Okay. Could I refer you to witness statement 008/2,
24 page 12? It's question 24(d). So this is Dr Taylor's
25 witness statement, it's his second witness statement,

1 and you'll see, at question 24, he's talking about the
2 CVP and that it was initially at 17 at 8 o'clock and it
3 had risen to 20 at 9 o'clock:
4 "And although the initial CVP of 17 is higher than
5 normally expected ..."
6 And he said it was 8 to 12 and that is millimetres
7 in mercury:
8 "... we concluded that the tip had curved upward
9 into the neck vessels as confirmed by compression.
10 Therefore we accepted the 17 as a marker to look for
11 relative change rather than an absolute level."
12 And when he's asked who "we" is referring to, he
13 identifies himself and you, Dr Montague.
14 MR UBEROI: If I could again rise just to make the same
15 point I did earlier. To update the evidence, my
16 recollection of Dr Taylor's oral evidence was that he
17 didn't recall what discussions took place as to the CVP.
18 I'm happy for this point to be put to the witness for
19 that comment, but I think it needs that extra point
20 added. This isn't something that Dr Taylor has stood
21 behind in his oral evidence.
22 THE CHAIRMAN: The problem, Mr Uberoi, it's a bit difficult
23 to know which of Dr Taylor's he stood behind in his oral
24 evidence because he was the one who described them
25 in the terms that we've been over before, and I didn't

1 ask inquiry counsel to take him through all of his
2 statements and say which ones were now to be ignored and
3 which ones were still to stand. I agree that
4 Dr Montague should be asked for his comment on this.
5 MR UBEROI: I do take your point, sir. I only make the
6 point on this question because my recollection of that
7 passage was that he said he didn't remember the CVP
8 readings. That's the recollection off the top of my
9 head. That's why I wish for that context to be added.
10 Sorry, didn't recall the CVP readings being discussed.
11 THE CHAIRMAN: Do you have any recollection of this,
12 Dr Montague?
13 A. I don't have any recollection of that, no.
14 THE CHAIRMAN: Do you understand why this is such an issue
15 of concern?
16 A. I do.
17 THE CHAIRMAN: There's a debate. Professor Gross said on
18 Wednesday that he's one of people who thinks it actually
19 was a real CVP reading. The other school is that this
20 isn't a reliable CVP reading. But however it came up,
21 the high reading was clearly there. One would have
22 expected that it would have been picked up, something
23 would have been done. And, in fact, Mr Keane says that,
24 specifically, he asked repeatedly what the number was
25 and was given a number.

1 A. Yes.
2 THE CHAIRMAN: Do you remember that?
3 A. No. No, I don't remember that.
4 THE CHAIRMAN: Would that be a normal thing for a surgeon to
5 do, to ask -- I presume you have seen Mr Keane's
6 evidence, have you, on the transcripts?
7 A. I have seen the transcripts.
8 THE CHAIRMAN: He says he asked in two different ways. He
9 asked, "Is everything okay?" and, specifically, on quite
10 a number of occasions he asked, "What is the number?".
11 Would those have been questions that you would have
12 expected a surgeon to ask?
13 MR DUNLOP: [Inaudible: no microphone] in the evidence of
14 Mr Keane, he did say that, that's correct, but it wasn't
15 clear when he said that. And of course --
16 THE CHAIRMAN: He said he said it about 20 times. If he
17 said it about 20 times, surely Dr Montague must have
18 been there for some of it.
19 MR DUNLOP: We don't know that, sir. That's the difficulty,
20 sir, because he didn't identify if it was at the point
21 when he was about to release the clamps when Dr Montague
22 --
23 THE CHAIRMAN: I'm sorry, Mr Dunlop. I agree there's
24 uncertainty about when exactly Dr Montague was there,
25 but I don't believe for one second that Mr Keane was

1 saying he asked 20 times towards the end of this
2 exercise.
3 MR DUNLOP: My difficulty is, sir, firstly, you're asking
4 this witness would it be normal. This was the one and
5 only paediatric renal transplant he attended, so I'm not
6 sure he's qualified to answer that question. Secondly, since
7 Mr Keane did not say when it was that he had asked in
8 any way about the CVP, it's difficult to assume or it's
9 unsafe to assume that it's said in the presence of
10 Dr Montague.
11 MS COMERTON: Mr Chairman, could I perhaps assist?
12 THE CHAIRMAN: Thank you.
13 MS COMERTON: If we go to the transcript on 23 April,
14 page 95. There's three different things that Mr Keane
15 said, Dr Montague, and your comments would be useful on
16 them.
17 A. Okay.
18 Q. Sorry, 95 and 96. He said at 95, lines 24 and 25, and
19 then going up to the top of the page of 96:
20 "The next thing I would do -- and I remember this --
21 is we would go across to where the anaesthetist ... And
22 whatever personal arrangement he had with his monitor
23 and we would look at that monitor. Sorry, you'd go
24 across and look at that monitor for whatever reason.
25 For me to chat to him as if we're looking at wherever

1 it is. And he says, "Now, Mr Anaesthetist, we'll just
2 go through this again. I'm going to want to slowly take
3 the child up."
4 He describing about how he says to the anaesthetist
5 about how he wants the CVP managed.
6 A. Yes. And this is at the start of surgery.
7 THE CHAIRMAN:
8
9 Q. This is start of surgery. Right:
10 "You'll need to constantly keep me in touch with
11 what's happening. Any trouble with the blood pressure,
12 any trouble with the CVP. We agree the reading and are
13 you clear? Do you want to ask me any questions? Are
14 you all right on that? Just keep talking to me."
15 So that's one reference. And if we go also to
16 page 97 --
17 THE CHAIRMAN: Shall we pause there and ask Dr Montague
18 about that?
19 MS COMERTON: Can we go to 97 as well? Sorry. 97, line 1,
20 and then 15 to 16E:
21 "I'm giving clear instructions: keep me absolutely
22 informed."
23 Then 15 to 16:
24 "As soon as Dr Taylor confirmed to me that he had
25 a satisfactory CVP reading that we could rely on -- I'm

1 firstly asking you, line 13, when, in the order things,
2 would you have been having this conversation with him.
3 He says:
4 "As soon as Dr Taylor confirmed to me that he had a
5 satisfactory CVP reading that he could rely on."
6 So that's the first reading: as soon as the CVP's in
7 and he's happy with it. So the suggestion from Mr Keane
8 was that, at that point, he goes over to the monitor
9 with the anaesthetist and they have a chat about what
10 they're doing with CVP and the communication between
11 them. Do you recall anything of that nature happening
12 during Adam's transplant surgery?
13 A. No, I don't recall that event.
14 Q. The next part of the transcript is on --
15 THE CHAIRMAN: Sorry, you had said it's unusual to have CVP
16 for a child's surgery; right?
17 A. Yes.
18 THE CHAIRMAN: According to Mr Keane's evidence, he's making
19 a big fuss about the CVP and saying specifically to
20 Dr Taylor all the stuff that Ms Comerton's just taken
21 you through. In essence, he is saying: I need to know
22 what it is. If there are any problems, I need to know
23 when they arise and you need to keep me informed.
24 Is that not something which is strikingly unusual
25 compared to your normal experience at that time?

1 A. Yes, I take your point.

2 THE CHAIRMAN: But you have no recollection of it at all?

3 A. I have no recollection of that happening.

4 MS COMERTON: And that would be something you'd be paying

5 particular attention to as the trainee anaesthetist who

6 wants to learn how to manage a child during a paediatric

7 renal transplant; isn't that is right?

8 A. Sure, yes.

9 Q. The next reference is the same date on page 83. It's

10 lines 2 to 3:

11 "My invariable practice over a three-hour transplant

12 procedure, I would have said, I would have talked to him

13 on 20 occasions: how is Adam, what's his CVP?"

14 Did Mr Keane do that during the surgery?

15 A. I don't remember Mr Keane asking me what his CVP was.

16 Q. I'm not suggesting he asked you.

17 A. I don't remember Mr Keane asking, "What is the CVP"?

18 I don't remember that.

19 THE CHAIRMAN: Can I ask you this: do you think you would

20 recall it if it had happened? Because it's so unusual.

21 A. I think I might recall that first passage that you

22 described.

23 MS COMERTON: About the monitor?

24 A. Yes. As I said earlier, I do recall the nephrologists

25 in the adult transplants, the nephrologists were

1 asked -- the anaesthetists, they came in and asked the
2 anaesthetists frequently what's the CVP in the adult
3 transplants that I was involved with.
4 Q. And then the final reference is page 85 on the same
5 date. It's lines 4 to 5:
6 "He knows what I want, so I may not always ask the
7 actual number, but I would imagine at least half the
8 time I would be saying, 'Tell me what the number is'."
9 So Mr Keane is suggesting that he may have asked
10 generally 20 times, but about ten times he would have
11 wanted to know the specific figure; do you recall that
12 happening?
13 A. No, I don't recall that --
14 Q. Do you recall any CVP measurements or figures being
15 discussed between anyone in theatre during Adam's
16 surgery?
17 A. No, I do not.
18 Q. When you were involved in the adult renal transplant,
19 would they have talked about specific CVP figures?
20 A. I don't recall remember if they talked about specific
21 CVP -- the nephrologists did, the nephrologists wanted
22 to know the number.
23 Q. Yes.
24 A. When they came in, they wanted to know what the CVP was.
25 That's what I remember them asking. They would come in

1 and say, "What's the CVP?". I don't remember if we had
2 a target CVP, whether it was individualised for each
3 patient, depending on what their initial CVP was.
4 That's what I imagine it probably was, "We want to bring
5 the CVP up, this one is 8, we want to bring it up by
6 three or four points", or, "This one is 10, we want to
7 bring it up by two points".
8 Q. Would the nephrologist have come in at the start of
9 surgery during the adult operations to find out what the
10 CVP reading was?
11 A. I can't really remember whether they did or not. It's
12 a long time ago, but I know they were in frequently
13 asking us what the CVP was and, presumably, if they
14 wanted to know the number -- they wanted to know the
15 starting number and know it had gone up.
16 Q. During any of those adult renal transplants, do you
17 recall the clinicians not knowing in theatre what the
18 CVP was?
19 A. When you say "clinicians" who --
20 Q. The surgeons or the anaesthetists or the nephrologists.
21 Nobody in theatre knew what the actual CVP was; do you
22 ever recall that happening?
23 A. There was always a line in, a central venous pressure
24 line which gave a reading on the monitor. There was
25 always a line in that gave a reading, so there was

1 always a number.
2 Q. Yes, but were you ever in theatre where the team did not
3 regard the CVP number as accurate or reliable?
4 A. For a renal transplant specifically, I can't remember.
5 I've seen patients who have a central venous pressure
6 line in and people were not sure that the absolute
7 number was reliable. Yes, I have seen that before, if
8 that's what you're asking me.
9 Q. No, I was asking about renal transplants.
10 A. Renal transplants, I don't remember. As I say, I did --
11 I don't know whether it was three or four ...
12 THE CHAIRMAN: But broadening that beyond renal transplants,
13 you do remember?
14 A. There are occasions when one cannot be sure of the
15 accuracy of the absolute number of the central venous
16 pressure.
17 THE CHAIRMAN: And what happens then, if it's important and
18 you're not sure what it is? In your experience, what
19 have you seen happen in that situation?
20 A. You would tend to go by the trend in the number. So you
21 might decide that you wanted -- at time zero, it was
22 whatever figure it was and you might decide that you
23 wanted it to make sure that ... For a transplant, for
24 example, that the child or the patient had enough volume
25 and you would want it to be higher than that at

1 a particular point, for example, or you might decide
2 that that was the point at time zero and that's what we
3 want it to be when we are finished.
4 MS COMERTON: Were they adult operations?
5 A. I've seen it in children's operations too.
6 Q. What kind of operations for children?
7 A. Cardiac operations. We always put in a central venous
8 pressure line.
9 Q. Do you accept that for paediatric renal transplants the
10 central venous pressure has particular significance for
11 managing the child, the anaesthetised child?
12 A. I think that there are a number of different monitors or
13 physiological measurements that we monitor, and I think
14 you have to look at them all and make an informed
15 decision based on all of them and the central venous
16 pressure is one of those.
17 Q. The statement that we had put up earlier from Dr Taylor
18 suggested that it was agreed that the reading of 17
19 would be a marker to look for relative change rather
20 than an absolute level. So, in other words, no one was
21 really sure what the real CVP measurement was, but they
22 were looking at the trend.
23 A. Yes.
24 Q. Do you think it was safe to do that in 1995? For
25 a paediatric renal transplant?

1 A. It's the only paediatric renal transplant I was ever
2 involved with. I was working with a consultant.
3 I don't know. I mean, clearly we know that there was
4 a tragic outcome in this case. I don't know if whether
5 the CVP was truly accurate that would have changed the
6 outcome. I don't know that.
7 Q. Would it have been safe to do that in an adult renal
8 transplant?
9 A. I can't remember.
10 Q. You can't recall?
11 A. It would not have been unusual to go by a trend in the
12 CVP rather than the absolute number during my training,
13 during my experience of --
14 Q. In the City Hospital?
15 A. Well, I don't want to specify about renal transplants
16 because I can't remember whether there was ever one of
17 those that we weren't certain about the absolute number.
18 Q. Okay.
19 THE CHAIRMAN: Well, isn't this a bit different? Because
20 this is not your standard operation. That's why
21 you have the CVP line in the first place.
22 A. Yes.
23 THE CHAIRMAN: So going by a trend in a particularly complex
24 operation sounds risky to an outsider.
25 A. Perhaps. It's the only renal transplant I was involved

1 with and with a tragic outcome, I'm afraid.
2 THE CHAIRMAN: Thank you.
3 MS COMERTON: There's a couple of other statements that
4 I want to put to you, Dr Montague. It's 008/2, page 34
5 and 35. Question 90(a), and this is Dr Taylor's second
6 inquiry witness statement. It's a statement that is
7 taken out of his police statement and it's again about
8 the CVP, where he says:
9 "What I am told is because the veins are
10 distensible, if the blood volume is normal or near
11 enough normal. It is impossible to get an increased
12 central venous pressure of that magnitude, 20, in
13 a child no matter where that catheter is placed.
14 "Well, your figures of double is a little subjective
15 because what we aim to do is to push it to 15 or 16, so
16 we can push the CVP -- 15, 16, 17 -- looking for
17 a normally-placed CVP, which is right next to where the
18 blood is returning to the heart. And I have pushed CVPs
19 to 16, 17 at the surgeon's team, as a team effort, to
20 try and get this kidney working."
21 And I appreciate Mr Uberoi's comments about context.
22 But I would like you to comment on that, please. He's
23 asked at (a):
24 "Identify all of those who whom 'we' refers."
25 And then he identifies himself and you as the people

1 who are managing the CVP and pushing it up to 15, 16 or
2 17.
3 A. I'm not sure which bit you want me to comment on
4 [OVERSPEAKING] --
5 Q. -- the comment arises out of his statement that "we
6 pushed the CVP to 15 or 16" and "it was a team effort to
7 try and get the kidney working". And when he's asked to
8 identify at (a) all of those to whom "we" refers, he
9 identifies you and himself.
10 THE CHAIRMAN: Do you agree that he's right?
11 A. Do I agree with the context? Do I agree that I'm part
12 of the "we" and part of that discussion? No, I don't
13 remember being part of that. But the CVP, according to
14 the public record now, was 17, so pushing it -- it was
15 already at 17 and he's talking about pushing it to 15,
16 16, 17. It was already at --
17 THE CHAIRMAN: So you're saying his statement doesn't make
18 sense in the first place?
19 A. That doesn't make sense in the first place and saying
20 that we discussed that or I'm part of that, it doesn't
21 make sense to me in the first place and I don't remember
22 that.
23 MS COMERTON: You will recall the printout that I referred
24 to. If we go back to it, it's 011-028-132, the bottom
25 printout of the CVP. I had referred to before the

1 points at which the trace drops down to zero. There are
2 four at various times.
3 A. Yes.
4 Q. Is that how the trace reading reacts whenever the
5 machine is being zeroed?
6 A. Yes.
7 Q. So it looks as if the machine is being zeroed on four
8 occasions between 7 and 11 o'clock?
9 A. Yes.
10 Q. Were you present while any of those zeroing procedures
11 were carried out?
12 A. Well, I believe I left some time around 9 o'clock, so
13 I was present for some of those, yes. Certainly the
14 first one is what you do at the very start, you do zero
15 the transducer. So I would have been in the theatre
16 when that one was carried out.
17 THE CHAIRMAN: How do you do that?
18 A. It's quite technical to explain, but there's a tap on
19 the -- what we call a three-way tap. You can turn it so
20 it's no longer monitoring the patient, if you like, and
21 you are measuring it at atmospheric pressure and that
22 gives you your zero point, and that is your zero
23 reference point of. Then any change in that when you're
24 measuring the patient's pressure -- [OVERSPEAKING].
25 THE CHAIRMAN: All you do --

1 A. You push -- there's a technical thing that you do with
2 the monitor. You tell the monitor that you want to
3 re-zero at this time.
4 THE CHAIRMAN: And is that pushing a button or something?
5 A. It's pushing a button on the monitor. That's what it is
6 now. I don't remember that it was any different in
7 1995 --
8 THE CHAIRMAN: But if that's your starting point, when it's
9 done again at about -- [OVERSPEAKING]
10 A. -- 9 o'clock, yeah --
11 THE CHAIRMAN: -- about 8 o'clock. How do you re-zero it at
12 that point?
13 A. The same way.
14 THE CHAIRMAN: And how do you re-zero it at nine-ish?
15 A. The same at nine and the same at ten.
16 THE CHAIRMAN: It's just turning a tap or pushing a button?
17 A. You turn the tap on the tubing that's connected to the
18 patient and you push a button to tell the
19 machine: I want to zero at this point.
20 THE CHAIRMAN: Okay.
21 MS COMERTON: Would you normally zero that many times during
22 surgery or is it usually arising out of a concern about
23 the CVP?
24 A. You would certainly -- the first time is normal.
25 Absolutely normal.

1 Q. So the one just before --
2 A. That's normal. And then after that, if you change the
3 patient's position, you may have to re-zero, and you
4 would be re-zeroing if you were concerned about the
5 accuracy of the reading.
6 Q. When you say "change the patient's position", do you
7 mean from lying on their back to lying on their side or
8 something?
9 A. That might be one change because he would have been
10 turned on his side to have his epidural put in. So that
11 may account for that one around 8 am, but I don't know.
12 I'm talking about if you -- the transducer, the tap that
13 you turn, is ideally level with the patient's heart. If
14 that transducer, as it's called, if that transducer is
15 not attached to the bed, every time the bed height
16 changes, you need to adjust the transducer height and
17 you may re-zero at that time.
18 Q. Were you involved in re-zeroing the machine?
19 A. I don't remember. I don't remember whether I was. It's
20 not ... It's something that you would commonly do with
21 a central venous pressure line when you put it in, but
22 I don't remember whether I did it or not.
23 Q. But this was your first CVP line?
24 A. In a child.
25 Q. Yes.

1 A. But I've put in loads of CVP lines and managed loads of
2 CVP lines in adults -- [OVERSPEAKING].
3 Q. Are they zeroed in the same way?
4 A. Yes.
5 Q. Who else could have zeroed machine if it wasn't you?
6 A. Dr Taylor, clearly.
7 Q. Would the medical technical officer have carried out
8 that kind of task at that time?
9 A. I can't be certain. I imagine he might have been able
10 to. I don't know whether he would have. He would often
11 zero the transducer before it was inserted. He would
12 have been involved in setting up the transducer.
13 I don't know if he would have zeroed the transducer when
14 it was connected to a patient. I don't know whether his
15 protocol or his --
16 Q. Would the anaesthetic nurse have been involved at all or
17 is this a --
18 A. I would doubt if the anaesthetic nurse would. The
19 nurses in intensive care would zero transducers. So
20 it's not necessarily a medically-qualified person that
21 can zero a transducer.
22 Q. Do you recall there being a respiratory and cardiac
23 pattern to the waveform of the CVP whenever Adam was in
24 theatre?
25 A. I don't recall that.

1 Q. No recollection?
2 A. No.
3 Q. Okay. If we go back to that table for CVPs at -- give
4 me a second. The reference is 307-006-065.
5 Dr Montague, if you look at that table as the actual
6 readings of the CVP from 7.45 onwards, do you accept
7 that they're too high, that they were too high for Adam?
8 A. I accept that that reading is higher than the normal
9 range. If there was a respiratory waveform, then
10 I would anticipate that there was a technical issue with
11 the line.
12 Q. And if you had seen those and been aware of those actual
13 figures of the CVP at that time, what do you think you
14 would have done?
15 A. You're asking me to speculate on what I would have done?
16 Q. I am, yes.
17 A. I'm a lot more experienced now in paediatric
18 anaesthesia. I assume I would have tried to adjust it,
19 to maybe pull the line back a bit, try it on some of the
20 other lumens. I don't know for certain, but it was
21 probably aligned with three different lumens, three
22 different parts to it, and you could possibly try it on
23 a different lumen. I would have tried flushing the
24 line.
25 Q. Would you have been happy to do nothing?

1 A. You see, you're asking -- again, if I was in charge of
2 the case now, today, I'd be fiddling with that line, but
3 you know, I was four years, five years -- four years in
4 clinical anaesthesia.
5 MR UBEROI: It's a slightly tricky way for the question to
6 be put because all these questions seem to be premised
7 on the presumption that people felt the readings were
8 accurate when, in fact, the evidence is that the
9 situation was different and people had recognised they
10 were high, but felt they were unreliable as a result of
11 the placement of the line and were therefore relying on
12 it for relative change.
13 MS COMERTON: I would like to move on then and ask you about
14 any discussion in theatre. Do you recall ongoing
15 discussion between yourself and Dr Taylor during the
16 surgical procedure?
17 A. My memory is that I wasn't there for much of the
18 surgical procedure.
19 Q. While you were there.
20 A. While I was there, I don't remember what we discussed.
21 I'm sure we were talking. We knew each other. I'm sure
22 we were talking about the case. I don't know what
23 we were talking about to be perfectly honest.
24 Q. Do you remember any specific discussions relating to
25 fluids?

1 A. No, I don't.
2 Q. Blood loss?
3 A. I don't think there was significant blood loss while
4 I was there.
5 Q. Well, let's have a look at a document. If we look at
6 058-007-021. This is the blood loss sheet --
7 A. Yes.
8 Q. -- for Adam's surgery. It was recorded on the 27th. If
9 you look at the column, the middle column entitled
10 "blood loss", Dr Montague, you'll see the various
11 figures that appear to have been recorded by the runner.
12 A. Yes.
13 Q. There seems to be a jump up about six figures down at
14 67 --
15 A. Yes.
16 Q. -- which seems a lot higher than all of the other
17 weights of the swab.
18 A. Yes.
19 Q. Might that suggest to you that there could be excessive
20 blood loss at that point?
21 A. It might, but there's no time on that. We don't know
22 the timescale on that.
23 Q. I appreciate that.
24 A. So I don't know whether I was there at that time or not.
25 Q. I appreciate that. If there was excessive blood loss or

1 more significant blood loss, is that something that
2 would have been discussed with you and Dr Taylor?
3 A. I don't know if it would. If it was ongoing -- if
4 a particular blood vessel was cut or something got
5 pulled and there was bleeding -- a short period of
6 excessive bleeding -- and the surgeons then dealt with
7 that and that was finished, the surgeons may not discuss
8 that with the anaesthetist. They may not say -- if it
9 was dealt with. But I would anticipate that if there
10 was ongoing, significant blood loss, I would anticipate
11 that the surgeons would communicate that to the
12 anaesthetist. The nurses would communicate that to the
13 anaesthetist, the anaesthetist would see the swabs going
14 up and would see they were very red, would be aware of
15 it, would be watching what was going on.
16 Q. Do you recall any discussion about sodium in theatre?
17 A. No, I don't recall any discussion about sodium in
18 theatre.
19 Q. Do you recall the level of communication between the
20 anaesthetist and the surgeons while you were in theatre?
21 A. I don't. I don't know what you mean by "a level of
22 communication", but were they talking to each other?
23 Q. The amount of discussion.
24 A. I don't remember what discussion was going on. I have
25 a memory of the surgeons concentrating on their

1 operation. That's what I remember: that they were
2 huddled together, working on preparing to get the kidney
3 inserted.
4 Q. Thank you. If we now move then on to during surgery and
5 could we go to the anaesthetic record, which is
6 058-003-005? This was the anaesthetic record for Adam's
7 surgery. Did you fill in any part of that form?
8 A. No part.
9 Q. Just while we have it in front of us, I had mentioned
10 CVP. About two-thirds of the way down on the left-hand
11 side there's "CVP" written and then a blank row
12 following it. Would that normally be completed by the
13 end of surgery?
14 A. I would think that the anaesthetist is obliged to
15 complete as much of the physiological data as is
16 possible. But I don't know what -- I can't remember at
17 this stage what Dr Taylor's usual practice was and
18 whether or not he got a printout or attached or kept the
19 printout with that chart. It was possible with the
20 machine that we had to get a printout. You clearly have
21 the printout.
22 Q. We can look at that. I have a recollection of Dr Taylor
23 signing a printout.
24 A. That may have been his usual practice to attach it, but
25 if the data is there, part of our job would be to record

1 that data.

2 Q. So if you attach the printout, you're saying you

3 wouldn't necessarily fill in that row?

4 A. Well, that would be a possibility. I don't know whether

5 that --

6 Q. Is the CVP printout not a very, very long document?

7 It's simultaneous so it's streaming out of the machine

8 whenever the surgery's ongoing?

9 A. You've got the document there. It's two pages. You can

10 get it printed like that, I imagine. I don't --

11 Q. Do you know?

12 A. I don't know, no. But I know in other institutions now

13 you can get it on a one-page or a --

14 Q. Do you recall what the practice was in 1995?

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

16 Q. I just wanted to refer you to a couple of things

17 in relation to Adam's fluid management during surgery.

18 First of all, can you recall, Dr Montague, whether

19 you administered any fluids to Adam during surgery on

20 27 November?

21 A. I don't recall whether I physically attached a bag of

22 fluid to Adam or not. I don't recall that, no.

23 Q. Okay. There are some things that I wanted to put to

24 you. If we go to the transcript of 20 April, page 167.

25 It's line 7 to 9. This is Dr Taylor's evidence. I had

1 mentioned to you earlier about the urine output and he
2 was being asked by counsel:
3 "Would any of the following have been aware of your
4 assumption of 200 ml?"
5 And that's the assumption of 200 ml urine output
6 that he made when he was managing Adam's fluid:
7 "Question: Would Dr Montague have been aware of it?
8 "Answer: I think so. It's an assumption. I can't
9 say for sure."
10 Do you have any recollection?
11 A. I have no recollection of that. I genuinely have no
12 recollection of knowledge or an understanding that his
13 urine output was 200 ml an hour.
14 Q. Okay. If we go then to witness statement 009/3, page 5.
15 It's questions 8(a) and (b). It's your own witness
16 statement, Dr Montague. You are being asked about fluid
17 management during surgery:
18 "I don't recall the discussions that Dr Taylor and
19 I had on the morning of Adam's transplant operation.
20 I believe the plan would have been to replace calculated
21 deficits to give fluid to replace intraoperative losses
22 and also to provide hourly maintenance fluid."
23 Then at (b):
24 "I was aware that Adam normally received PEG feed
25 and/or fluid overnight, which I believe were given at

1 approximately 180 ml per hour to compensate for his very
2 high urine output. He was unable to have this the night
3 prior to transplant as he was fasting. As intravenous
4 access was difficult, he did not receive fluids for at
5 least four hours before his operation. Therefore, he
6 would have come to theatre with a large deficit. If
7 this volume were not replaced prior to the transplanted
8 kidney being vascularised, there was potential for this
9 deficit to compromise the kidney. Part of the
10 management plan would have been to replace this volume
11 as soon as was practicable."
12 Does that reflect your state of knowledge
13 in November 1995 or at the time you made your statement?
14 A. I think that was my memory of what was going on in 1995.
15 I clearly am talking about four hours' deficit. You've
16 told me earlier this morning that he only had two hours
17 when he didn't get feed. So when I was making this
18 statement I didn't have all of the other transcripts.
19 So I think that was my knowledge from 1995.
20 Q. Was that knowledge that you came to yourself or was it
21 based on your discussions with Dr Taylor?
22 A. It would be hard to separate that. I don't know.
23 I mean, this was such a long time ago. I don't remember
24 what information I did or didn't get from Dr Taylor.
25 The 180 ml an hour was the figure that I had in my head

1 that I got from the ward.

2 Q. Had you any concerns at the time, Dr Montague, about the

3 type of fluid being used to replace Adam's losses?

4 A. At the time in 1995, no, I didn't, and if you look at

5 his anaesthetic chart there's a printed piece for "fifth

6 normal", Solution No. 18. That was the fluid that was

7 given to children in the early 90s. That's what we gave

8 in theatre. That was the fluid that was available, the

9 first line of fluid was that. Even when I went to

10 Manchester, that's the fluid that they had in theatre in

11 a children's hospital. So the type of fluid certainly

12 was a problem.

13 Q. Okay. You mention that there was a large deficit before

14 Adam came to theatre. Was that something that you and

15 Dr Taylor had discussed?

16 A. That's something that I -- I don't know if I discussed

17 that with him. I presumed when I wrote that or

18 I presumed on the night that he couldn't get intravenous

19 fluids, that he was in deficit. I didn't know --

20 I subsequently know that he got Dioralyte through his

21 gastrostomy. I didn't know that at the time I was

22 writing the statement nor did I know it in 1995.

23 Q. Okay. If we go back to the anaesthetic record for

24 a minute at 58/35, please. If you look at the record of

25 what fluids were administered to Adam on the 27th, have

1 you any comment about that now?
2 A. I know a lot more now than I did then. The state of
3 knowledge of fluid management in children has evolved
4 since that time and, unfortunately, Adam's death and the
5 other deaths contributed to the state of that knowledge.
6 We wouldn't use fifth normal, large volumes of fifth
7 normal now. I never use fifth normal in theatre ever
8 now.
9 Q. What about the rate at which the fluid was administered
10 to Adam?
11 A. Now? Well, clearly ...
12 MR UBEROI: Can I rise just to make an objection of
13 principle really, which is that this is a witness of
14 fact who's been called by the inquiry to assist it with
15 what he remembers factually about the operation. It's
16 perfectly legitimate to ask and he's more than entitled
17 to answer if he is asked as to whether he was party to
18 the decision to administer that rate and, if so, if the
19 answer to that is yes, then why did he administer at
20 that rate. But he's not been called by the inquiry to
21 offer his view on what others did. That is a question
22 which you have properly restricted to your expert
23 anaesthetist. So as I say, to the extent that the
24 question seeks to ask him to offer comment on what
25 others did, then, in my submission, that's not for this

1 witness.
2 THE CHAIRMAN: Well, I'm not sure it's as simple as that.
3 You have said you wouldn't now use one-fifth normal
4 saline?
5 A. No.
6 THE CHAIRMAN: That just doesn't happen any more?
7 A. I would hope it doesn't happen. There are some people
8 that do believe it's okay, but most people don't.
9 THE CHAIRMAN: Well, would you administer fluid at this sort
10 of rate to a child of four?
11 A. It depends on what you thought their losses were, what
12 deficits they had and what their ongoing losses would
13 be. So it could be possible to give large volumes of
14 fluid to a child. And it could be possible to use those
15 kind of volumes in a child who was 20 kilos if you
16 thought they had significant deficits and significant
17 ongoing losses.
18 MS COMERTON: Of Solution No. 18?
19 A. No, no, no. I said that I wouldn't. You're asking me
20 now, what I would do now.
21 THE CHAIRMAN: That's quite different, I understand. If
22 there was a very significant deficit, you might
23 administer fluid at that rate, but not that fluid?
24 A. Not that fluid.
25 THE CHAIRMAN: Thank you.

1 MS COMERTON: Were you involved in the decision about the
2 rate of administration of Solution No. 18, Dr Montague?
3 A. I don't remember being involved in that decision.
4 I don't remember a discussion about the rate that
5 we would give that or the volume.
6 Q. What about the volume of fluid administered?
7 A. I don't remember a discussion about the rate or the
8 volume.
9 THE CHAIRMAN: I think we should take a break, Ms Comerton.
10 Would anyone mind if I shortened the break so we resume
11 at 1.45, is that okay? Thank you very much indeed.
12 (1.15 pm)
13 (A short break)
14 (1.45 pm)
15 MS COMERTON: Dr Montague, in your police statement at
16 093-037-114 -- let me get the title. 093-037-118. On
17 the sixth line you have said:
18 "I do not remember having any role in the planning
19 of fluid administration."
20 That's been the tenor of your evidence today.
21 A. Yes.
22 Q. I wish to put a number of things to you for your comment
23 because they've been said and it's in the context of
24 already realising that Dr Taylor's made certain
25 statements, accepting particular things. First of all,

1 if we go to 093-038-242. This was Dr Taylor's police
2 statement and it's the top of the page:
3 "No one knows what Adam's kidneys are capable of.
4 The only thing we do know was he passed a minimum amount
5 of urine, which is 200 ml a day, and my knowledge of
6 Adam at this time was that this was a minimum loss and,
7 in fact, my knowledge of the kidney disease was that
8 there may be an unlimited ..."
9 If we skip down --
10 THE CHAIRMAN: He then corrected that to "200 ml an hour"
11 rather than "a day".
12 MS COMERTON: Thank you, Mr Chairman.
13 If we skip to the third comment after that where
14 Dr Taylor says:
15 "No one has established maximum output."
16 You had indicated at the start of your evidence your
17 understanding of polyuria in 1995 based on your
18 experience of adults. Did you share Dr Taylor's view at
19 that particular time as expressed in that police
20 statement?
21 A. Do you mean no one knows what the maximum urine output
22 for somebody might be?
23 Q. Yes. Let me run through it. 200 ml an hour was
24 a minimum loss.
25 A. I had no idea what his minimum or maximum loss was.

1 I really did not know.
2 Q. But your knowledge at that time was that it might have
3 been an unlimited output? Would that have been your
4 view?
5 A. Unlimited ... I don't know if I would have used the
6 word "unlimited".
7 THE CHAIRMAN: I think Dr Montague said this morning that in
8 your experience of adult polyuric patients, their output
9 was variable.
10 A. Yes. And it might respond to the fluid that you gave.
11 So if you gave a volume of fluid, the adult polyuria
12 kidney might -- the recovering kidney, a kidney that was
13 recovering from acute renal failure, if you give
14 increasing volumes of fluid, the kidney might respond by
15 putting out increasing volumes of fluid. But it was
16 generally of poor quality, you didn't get rid of the
17 salts and excrete what you needed to excrete.
18 MS COMERTON: But was your view -- if we go down to the
19 final column:
20 "There was no maximum output or it hadn't been
21 established."
22 A. I don't know if that was my view at the time. I don't
23 know even now if I could say that there's a maximum
24 urinary output that a kidney is capable of, any kidney,
25 normal or otherwise, but my knowledge -- my

1 understanding at the time was that Adam had polyuric
2 renal failure and I had -- this wrong knowledge that he
3 might put out more urine if he got too much fluid, but
4 clearly that was wrong.
5 Q. Thank you. So if I take a sample of some of the
6 statements that have been made, first of all statement
7 008/2, page 8. This is Dr Taylor's second witness
8 statement to the inquiry and it's question 14(a). When
9 he was asked to describe and explain the calculations
10 you made with Dr Montague in relation in fluids and the
11 basis upon which he made them. His answer was:
12 "We calculated the deficit, maintenance rate and the
13 blood volume on the anaesthetic record."
14 So my point to you is, doctor, Dr Taylor is
15 portraying this -- although he may not have been asked
16 specifically in his oral evidence -- that it was a joint
17 effort between the two of you, that you were both
18 involved in these calculations.
19 A. I have no memory of doing calculations with Dr Taylor
20 about the volume of fluid that Adam would need. And
21 I -- those ... You can see on his anaesthetic chart
22 that there are some volumes calculated or recorded.
23 I didn't record those.
24 MR UBEROI: On this point, I don't have the reference to
25 hand, but we, of course, have Dr Taylor's February

1 statement where he states in terms: I was responsible
2 for all of the fluid calculations that was administered
3 to Adam.
4 THE CHAIRMAN: I think we're back to the same point.
5 I entirely accept that he has taken the lead
6 responsibility for this. I think what Ms Comerton is
7 really asking is whether that means that Dr Montague had
8 no responsibility and no involvement and was not party
9 to any discussions. But I'm happy for Ms Comerton to
10 ask some questions along these lines, but in the context
11 that your client has accepted that ultimately,
12 effectively because he's the consultant, it's his
13 responsibility.
14 MR UBEROI: I'm grateful, sir, because that's my only
15 concern that that context is always added and that the
16 witness doesn't unintentionally conclude that more
17 recent evidence has been given to the effect of these
18 written witness statements.
19 MR DUNLOP: Sir, I'm also slightly concerned because the
20 expert evidence in the case was given by Dr Haynes.
21 That dealt with, principally, what are the obligations
22 falling upon the anaesthetic team. And he comments
23 specifically on what one would expect from an
24 anaesthetic registrar. And the context, of course, in
25 this case is that Dr Montague's contact, as we know, is

1 in the night, he came to the case cold, he was brought
2 into the surgery in the morning, was there for a short
3 period of time at the start.
4 THE CHAIRMAN: You're saying that's a given. I'm not saying
5 that's a given. That's an issue to be probed.
6 MR DUNLOP: I accept that [inaudible: no microphone] called
7 before the inquiry [inaudible: no microphone] no one who
8 has suggested to the contrary. And the evidence of
9 Dr Haynes, when he was dealing with the responsibilities
10 falling upon the anaesthetic team, did not suggest that
11 the responsibility for calculations fell upon
12 Dr Montague, nor did I understand it was an issue --
13 THE CHAIRMAN: Sorry, that's not quite right.
14 I specifically raised Dr Montague's position with
15 Dr Haynes at the end of his evidence and Dr Haynes, in
16 terms, was saying what the role or contribution of
17 a registrar depends on who that registrar is and what
18 stage of his training he's at, and he ended up saying
19 that going on Dr Montague's record -- where he was an
20 experienced registrar, but he was coming out of research
21 and coming into paediatrics -- he said his take on it
22 was that Dr Montague was there that morning primarily
23 for Dr Montague's benefit rather than for Dr Taylor's
24 benefit or, more particularly, rather than for Adam's
25 benefit. But that does not mean that Dr Montague does

1 not have some role in this. If he doesn't have any role
2 in this, what's he doing in the theatre? And it is
3 entirely legitimate to probe this.
4 MR DUNLOP: I'm not taking issue with that, Mr Chairman
5 [inaudible: no microphone] legitimate to ask, as a
6 matter of fact what had happened. But insofar as what
7 has been put, it has been put to Dr Montague what has
8 said by Dr Taylor in witness statements, in the context,
9 of course, in which Dr Taylor -- and there is some
10 ambiguities, I accept -- seems to have accepted
11 responsibility for those calculations and in
12 circumstances where Dr Montague has no recollection of
13 precisely what was discussed.
14 So we have a hypothetical scenario of: if you had
15 seen that and if you were aware of that, what would you
16 have done? And that, of course, has to be viewed in the
17 context of what I suggest is the evidence -- the given
18 evidence -- of his relative inexperience, complete
19 inexperience, in paediatric renal transplant. And I'm
20 concerned that the impression one could glean from
21 that is that Dr Montague took a responsibility in some
22 way for calculations which the experts don't place upon
23 him, in my respectful submission, and nor does Dr Taylor
24 --
25 THE CHAIRMAN: I think it's premature to say that the

1 experts place no obligation on the witness for this, but
2 I think it is necessary, not to go through all of
3 Dr Taylor's statements one by one -- because we didn't
4 even do that with Dr Taylor -- but to give Dr Montague
5 an opportunity to respond to particular points and his
6 answer for instance about question 14(a) was to say, in
7 terms, when it was put to him by Ms Comerton, that
8 Dr Taylor was saying this was a joint effort, he said,
9 "I have no memory of doing the calculations", and
10 I think this is a line of questioning which I know
11 will not be pursued at length.
12 MR DUNLOP: Very good.
13 MS COMERTON: I'm obliged, Mr Chairman.
14 The last one that I want to put is at 008/2,
15 page 10. It's question 19(b), this is again Dr Taylor's
16 witness statement, Dr Montague, where e has said
17 previously:
18 "The IV fluids were reassessed several times during
19 the first hour."
20 And, at (b), he's asked what prompted that
21 re-assessment, who was involved and to describe the
22 reassessment. His answer is:
23 "During anaesthesia, we were continually monitoring
24 his vital signs and reassessing his fluid on this
25 continuing basis. Dr Montague and I were involved."

1 Do you accept that?
2 A. I don't remember that we had ongoing detailed
3 discussions about his fluid management.
4 THE CHAIRMAN: Well, were you monitoring his vital signs?
5 A. I presume -- yes. Yes.
6 MS COMERTON: If we move then to the anaesthetic record. If
7 we could go back to 058-003-005 and ask you about the
8 drugs that were administered. Do you recall what
9 discussions there were about the drugs to be given to
10 Adam?
11 A. No. I don't remember a separate discussion about what
12 drugs we would give, but it was common practice to use
13 those drugs.
14 Q. At that time?
15 A. Yes.
16 Q. Did you administer any of those yourself?
17 A. The induction drugs, I did not administer. I was not in
18 the room when Adam was put to sleep.
19 Q. Not all of those drugs listed there are induction --
20 A. No, no. There's Augmentin, which is an antibiotic.
21 I don't know whether I gave that or not. I can't answer
22 that.
23 Q. What about the others?
24 A. Sorry.
25 THE CHAIRMAN: Let's do it this way. Do you remember any of

1 those drugs which you did administer? You are saying it
2 was common practice to use these drugs at the time.
3 Can you specifically recall -- [OVERSPEAKING] -- you
4 personally administered any of these drugs?
5 A. I can't specifically recall. I can tell you for
6 definite that I didn't give the first two, which is the
7 atropine and STP, which is thiopentone, the induction
8 agent, and the atracurium I did not give that. The
9 Augmentin, I don't know whether I gave that or not. The
10 prednisolone and the azathioprine, they would have been
11 given when the clamps were released or when the kidney
12 was infused. I wasn't there at that stage.
13 THE CHAIRMAN: Thank you.
14 MS COMERTON: If I ask you about the immunosuppressants,
15 would you have obtained those or were they brought to
16 theatre by somebody else?
17 A. I don't recall, I wasn't there. It was the only
18 transplant I was involved in within the Children's
19 Hospital. I don't know if there was a custom and
20 practice about who got the drugs or where they came
21 from --
22 Q. Do you recall preparing those kind of drugs beforehand
23 at the start of surgery?
24 A. No.
25 Q. Do you know whether there would have been a prescription

1 written for those immunosuppressants?
2 A. I don't know if there would have been a prescription.
3 The nephrology team would have been deciding on the
4 doses and which immunosuppressants. I don't know
5 whether they wrote a prescription and the anaesthetists
6 prepared those drugs or whether they prepared them.
7 They're not anaesthetic drugs, if you like, so
8 it wouldn't be essential that we gave them. I don't
9 know what the custom and practice was in the Children's
10 Hospital at that time.
11 Q. Do you know whether prednisolone was administered or
12 methylprednisolone?
13 A. I wasn't there at that time. I don't know.
14 Q. Thank you. In relation to the atracurium, was there
15 a plan for administration of atracurium during Adam's
16 transplant?
17 A. I don't know if there was a specific plan. I don't know
18 that.
19 Q. Did you discuss that drug with Dr Taylor?
20 A. I'm not sure if I did, but it's not a drug that ...
21 It's a very commonly used anaesthetic drug and either of
22 us could have given that. I'm not sure that it would
23 demand high level discussion, if you like.
24 Q. If we could go to 307-006-063. If you look at the chart
25 1 on the lower half of the table, it's a drug chart.

1 This is a document drawn up by the inquiry legal team to
2 try and summarise information. You'll see the third
3 column along, "atrac" is the atracurium, and it's
4 recorded as being administered at those various times in
5 those doses.
6 A. Yes.
7 Q. Were you aware why it was administered at those times?
8 A. No, I am not aware why those times were chosen.
9 Q. And you can't recall any reasons given?
10 A. No.
11 Q. Do you know why it wasn't administered at 9 o'clock, for
12 example?
13 A. No.
14 Q. Or it wasn't administered after 9.30?
15 A. No, I don't know.
16 Q. Thank you. I would also like to ask you about dopamine,
17 which was administered. If we go to 011-002-006. This
18 is a statement from Dr Taylor that was written or dated
19 1 December 1995. It's an extract from it. If we go
20 down to the penultimate paragraph:
21 "A low-dose dopamine infusion was commenced near the
22 beginning of the case to provide a renal vasodilating
23 effect. This does has minimal if any systemic effects
24 and is regarded as routine practice in renal
25 transplantation in centres where I have worked."

1 Did you administer the dopamine at the start of the
2 surgery?
3 A. I don't remember administering dopamine at the start of
4 surgery. It is a drug that's given by infusion.
5 Somebody would have to make up the dopamine and connect
6 it to the central venous pressure line, once that was
7 inserted.
8 Q. Do you recall when it was given?
9 A. I don't recall. I didn't know that until the inquiry
10 started -- I couldn't have told you that we had given
11 dopamine.
12 Q. And where would the administration of that drug normally
13 be recorded?
14 A. On the anaesthetic chart, you could record it, yes.
15 Q. Would there be any reason for not recording it on the
16 chart?
17 A. I can't think of any reason why one wouldn't record it.
18 Q. The other reference is 011-014-101. It's about six
19 lines down:
20 "There are two small increases in the systolic BP at
21 around 10 am corresponding to two small boluses of
22 dopamine. The rationale for this was to increase the
23 perfusion pressure without fluid challenges to the donor
24 kidney, which at that stage was not looking good and not
25 producing urine."

1 Do you recall all those boluses being administered?
2 A. No, I don't believe I was there is at that time.
3 Q. If we forget about the time for the minute --
4 A. No, I don't recall that, no.
5 Q. Okay. Did you administer them?
6 A. No.
7 Q. Thank you. If we now move on to electrolyte tests. Who
8 in theatre would have assisted in bringing a blood
9 sample out to the blood gas machine just outside the
10 theatre in ICU?
11 A. The medical technical officer, they would have done some
12 gases. I don't know if some of the nurses would or
13 would not. I can't answer that.
14 Q. What about you?
15 A. And then the anaesthetist could do that also. That's
16 a task that we could do.
17 Q. Can you work the blood gas machine?
18 A. I can't remember the specific machine, but yes, I could,
19 yes.
20 Q. You could have at that time?
21 A. Yes.
22 Q. Do you recall doing that, Dr Montague, during Adam's
23 operation?
24 A. If you're talking about that blood gas at 09.32, I did
25 not do that gas. I did not see that gas until this

1 inquiry started.
2 Q. Whenever you bring the sample out and it's processed by
3 the machine, a printout is produced.
4 A. Yes.
5 Q. What is normally done with that printout?
6 A. I don't remember what the custom and practice was in the
7 Children's Hospital. I know in other centres you would
8 attach it to the anaesthetic chart.
9 Q. Are you talking about Manchester and Dublin?
10 A. Yes. You could attach it, stick it with tape to the
11 back of the chart, or else record the data from it on
12 the chart.
13 Q. In those centres, when would it be attached?
14 A. Soon after you did it.
15 Q. Who would have done that?
16 A. The anaesthetist.
17 Q. Anybody on the anaesthetic team?
18 A. Yes.
19 Q. Were you aware of any concerns about the reliability of
20 blood gas machines to measure sodium?
21 A. I do remember some concern about that, that the sodium
22 value wasn't accurate. But I don't know how reliable or
23 unreliable they were. I don't know the range that would
24 have been given by the manufacturer of the machine.
25 THE CHAIRMAN: Do you remember this in relation to Adam or

1 are you talking about --

2 A. In general. Because there was some sodium in the

3 heparin that was used to prevent clots occurring in the

4 machine, it was thought that the sodium value wasn't

5 totally reliable. The absolute number wasn't -- it may

6 not be totally reliable.

7 MS COMERTON: In any event, if it wasn't precise, compared

8 to, for example, a laboratory analysis, would it often

9 have been used as an indicator, a guide?

10 A. I don't remember the specifics if it was, but I presume

11 it was, yes. I would have thought it was, yes.

12 Q. Dr Montague, you're quite clear that you weren't in

13 theatre at 9.32?

14 A. Yes.

15 Q. What time exactly did you leave theatre at on

16 27 November?

17 A. I can't tell you the exact time that I left. I don't

18 know the exact time that I left.

19 Q. You were supposed to be on duty until 9 o'clock, so

20 do you accept you would have remained in theatre at

21 least until 9?

22 A. Possibly. You know, as I said to you this morning, the

23 anaesthetic registrars usually arrived in the theatre

24 complex around 8.30 and then they would assign

25 themselves to one of the theatres, around that time.

1 The lists normally started around 9. You were there
2 around 8.30 to go see the patients and prepare before
3 the list started. So I anticipate that one of the
4 registrars was in and would have been able to let me go,
5 possibly before 9.
6 Q. You have no recollection of that at all?
7 A. I don't remember the specifics at all.
8 Q. You don't remember who it was?
9 A. No, I don't.
10 Q. What time you left?
11 A. No.
12 Q. Or exactly what you may have said to them?
13 A. No, I don't.
14 THE CHAIRMAN: Would you have left without somebody
15 replacing you?
16 A. I think that's possible. Well, I did leave. I can tell
17 you that I did leave. I think it is possible.
18 MS COMERTON: On that point, Dr Montague, I wonder could we
19 refer to Dr Taylor's transcript? It's 20 April,
20 page 66. He's asked if Dr Montague is not going to stay
21 for the duration of the four-hour operation, or whatever
22 it was assumed it would be:
23 "When you were initially speaking to him, what
24 arrangements were made as to who would replace him?"
25 And Dr Taylor said:

1 "Well, he would have to talk to one of the other
2 trainees coming on and say to them, 'I need to go home,
3 Dr Taylor will met me go home if you will come and
4 help'."
5 Line 15 then:
6 "Question: So it's Dr Montague who'd have to make
7 the arrangement?
8 "Answer: Yes, that would be the usual practice."
9 Is that right? It's up to you to make the
10 arrangement?
11 A. Well, I'm not sure if I would phrase it like that --
12 Q. How would you phrase it?
13 A. Well, we would go and look and get somebody or say to
14 somebody -- they were literally outside the door, they
15 were outside that door there and they would know that
16 there was something happening in theatre, they'd stick
17 their head in and see what's going on. You'd have
18 a conversation and let you go home and Dr Taylor would
19 allow me to go home too.
20 Q. If we could go to pages 65 and 66, please. 65 is lines
21 21 to 25. Dr Taylor is asked:
22 "Do you remember that there was a trainee who came
23 in to assist or whether you have simply assumed that
24 there must have been?"
25 He answers at 19:

1 "I can't remember, so I assumed there was somebody.
2 I would expect there to have been somebody to replace
3 Dr Montague. This is the point I want to make to you.
4 It is not my practice to allow a trainee -- or to
5 dismiss a trainee, even after a night's on call until
6 there is a suitable replacement. So it is based on that
7 premise that a trainee who says to me, 'I've been on
8 call, I want to go home', I would say, 'Only when
9 there's a suitable replacement'. It is based on my
10 practice, on my incomplete memory, that I made that
11 statement."
12 And the other reference I want to make to you --
13 THE CHAIRMAN: Sorry, you had worked before with
14 Dr Taylor --
15 A. Yes.
16 THE CHAIRMAN: -- in 1990 and 1991?
17 A. Yes.
18 THE CHAIRMAN: Am I right? And you were coming back now
19 working for him again?
20 A. Yes.
21 THE CHAIRMAN: Do you recognise that practice that he's
22 talking about that if he would not -- if he had an -- an
23 SHO, as you might have been earlier, and now you're a
24 senior registrar, that he would not allow his assistant
25 to leave unless he was replaced?

1 A. That's not the way I remember it, no.
2 THE CHAIRMAN: Well, are you saying that you do remember
3 being allowed to leave by Dr Taylor without
4 a replacement?
5 A. Yes.
6 THE CHAIRMAN: In what sort of examples, if you can recall
7 specific examples?
8 A. I think it's absolutely plausible that I could have left
9 during Adam's case that morning, whether there was
10 a replacement or not. The patient had all of the
11 procedures carried out, the patient was, as we thought
12 at the time, stable. The surgery had commenced.
13 I believe that there was another person there, but
14 I can't honestly recall that. My memory was that there
15 was somebody else there, but I can't remember that. But
16 I was allowed to go home.
17 MR UBEROI: Sir, I rise [inaudible: no microphone] the
18 alternative limb of the evidence that Dr Taylor gave on
19 this subject is also put to the witness for him to
20 comment on, which is in the same passages for example at
21 page 67, line 22. What he's talking about is the
22 scenario where, at 8.39, the other trainee anaesthetists
23 come on. This is line 22:
24 "One or other trainees would have come in. They
25 would usually come in to see what's happening and to

1 find out whatever theatre they were attached or to find
2 a theatre to attach to."
3 Then it goes on. So I think, in fairness, to
4 Dr Taylor, it was in the context of that scenario that
5 he have the evidence he gave and I think that is a
6 scenario that this witness should also be offered the
7 opportunity to comment upon.
8 THE CHAIRMAN: It doesn't seem to be any of the other
9 registrars because we've got statements from them and
10 they don't put themselves as your replacement. Right?
11 A. No, they don't. They don't volunteer to appear before
12 the inquiry.
13 THE CHAIRMAN: Sorry, let's just be careful here. You're
14 before the inquiry because you were the assistant at
15 some point in the operation.
16 A. I was there, yes.
17 THE CHAIRMAN: We have gone to other registrars who have
18 been identified to us to ask them, "Did they take over
19 from you?", "Were they on duty?", on the basis of
20 information we have received.
21 A. Yes.
22 THE CHAIRMAN: The information which we have received from
23 them in their statements is that, to the best of their
24 recollection, they didn't. In one or two cases, we know
25 from hospital records that they went elsewhere.

1 A. Yes.
2 THE CHAIRMAN: And there was a mention of Dr Rao this
3 morning and you said Dr Rao wasn't a register, Dr Rao
4 was a consultant. That is why we haven't called other
5 individuals and we have called you because you were put
6 in theatre. You accept you were there at some point.
7 The question mark is at what point you left. Dr Taylor
8 has given evidence which is not entirely consistent
9 about whether he would have allowed you to leave without
10 a replacement or not and there is another witness who
11 puts you there later on. That's why you're here.
12 A. Sure.
13 THE CHAIRMAN: Okay?
14 A. And I cannot tell you who replaced me. I cannot tell
15 you for definite if I was replaced. I can tell you that
16 I went home, that I was allowed to go home by Dr Taylor.
17 THE CHAIRMAN: But I think, in fairness to you, you were
18 also saying that you had no reason to think that you
19 wouldn't have been allowed to leave because, as far as
20 everybody thought, Adam was doing fine.
21 A. That's right.
22 THE CHAIRMAN: So if there had been concerns about Adam,
23 anaesthetic concerns, you wouldn't have expected to have
24 been allowed to go?
25 A. And I wouldn't have been looking to go either.

1 THE CHAIRMAN: In the scenario where, so far as people can
2 tell at that point, so far as Dr Taylor is reading the
3 situation, it seems to me that Adam is fine and I take
4 it that you're suggesting that, in that situation, he
5 would be less inclined to demand that you stay; is that
6 right?
7 A. That's exactly what I'm saying.
8 MS COMERTON: There's one other reference I want to make to
9 this transcript.
10 Page 68, please, line 11 to 15. It's Dr Taylor
11 again:
12 "Well, my practice would be to keep the trainee with
13 me, who was with me at the start; in other words, not
14 let them go home unless they were unfit to stay after
15 a night's on call, for instance, or unwell. They would
16 have to stay beyond their shift."
17 So his evidence was you couldn't go unless there was
18 someone else coming in, unless you were unwell.
19 A. I wasn't unwell. I was allowed to go home. I don't
20 agree with that. That doesn't fit with my recollection
21 of that morning.
22 Q. The other reference that I would like to make is the
23 transcript for 25 April, please, page 70 to 71. This
24 was Dr O'Connor's evidence where she was being asked
25 about when she came in and when she went into theatre.

1 Dr O'Connor's evidence was that when she came into the
2 hospital at some point she went into theatre and she saw
3 you there. She's clear about that. And the reference
4 for that is at the bottom of page 70, line 25. The
5 chairman put:
6 "Question: At some point after that, you saw
7 Dr Montague there?
8 "Answer: I'm clear that I saw him. I am not clear
9 how long for."
10 Could we bring 70 up as well? Sorry.
11 THE CHAIRMAN: We tried to work out a timeline with her,
12 didn't we?
13 MS COMERTON: Yes. You, Mr Chairman, had spoken to her from
14 line 10 on page 70:
15 "Question: I know that Dr Montague wasn't there all
16 the time, but you didn't come in until 9 o'clock. In
17 fact, you weren't seen -- you're not even sure. You
18 come in about nine, saw Professor Savage, you have
19 a discussion with him in which you learn for the first
20 time that there is a transplant going on.
21 "Answer: Yes.
22 "Question: You go through various pieces of
23 information with him. You may go to your own office,
24 deposit your bag and coat?
25 "Answer: Yes.

1 "Question: You're certainly not in theatre at five
2 past of ten past nine. It is almost certainly going to
3 be a bit after that.
4 "Answer: I would imagine so."
5 THE CHAIRMAN: And then she says it's at some point after
6 that that she saw you. Do you remember seeing her?
7 A. No, I don't remember seeing Dr O'Connor and I think
8 I would have remembered because I knew her. I didn't
9 know Professor Savage, but I knew Dr O'Connor. We had
10 both worked in Altnagelvin in 1988/1989, so I knew who
11 she was.
12 MS COMERTON: The point that is being made is that you
13 didn't leave at half eight as you said in your witness
14 statement and you didn't leave at 9 because Dr O'Connor
15 saw you after that.
16 THE CHAIRMAN: If she's right.
17 A. If she's right. In her first statement, she didn't
18 remember who the anaesthetic team were. When it was put
19 to her, my statements was out, my name was out. This is
20 a long time ago, you know.
21 MS COMERTON: I appreciate that. Do you recall the stage
22 that surgery had reached when you were last in theatre?
23 A. No, I don't.
24 Q. Or what was your last task, anaesthetic task, before you
25 left? To try and work out the time frame.

1 A. I can't honestly tell you. I don't know. I mean, once
2 the patient -- once Adam was asleep, his epidural was
3 in, his lines were in, and surgery was started, there
4 weren't that many tasks that needed to be done at that
5 actual point.
6 THE CHAIRMAN: Yes, but that brings us back to really what's
7 your learning -- what's the learning experience that you
8 want to benefit from here? Is it just seeing Adam being
9 anaesthetised and the procedure starting? Or is it not
10 also wanting to see the kidney being transplanted and
11 then him being brought out of anaesthetic with the
12 transplanted kidney in him?
13 A. For a junior anaesthetist, an anaesthetist at my stage,
14 learning about children's anaesthesia, it's the
15 procedures at the start that would have been the most --
16 the thing that we or that I would have been most
17 interested in. The complexity of the case, the
18 complexity of the fluid management was unknown to me
19 at the time. Clearly, it's very important now and as
20 a consultant I would be very -- I'd be thinking more
21 about the duration of the whole of the case rather than
22 just the start of it. Most of the anaesthetic activity
23 happens at the start of a case.
24 MS COMERTON: Would you not have been interested in seeing
25 the management of the CVP up to the point at which the

1 clamps were released because that's fairly unique to
2 that particular procedure and you hadn't have very much
3 experience in renal transplantation before?
4 A. No, I hadn't had, but no, I don't think ... The way the
5 CVP is managed, you know, there might have been --
6 I don't know ... If there was a target CVP, we would
7 have given fluid to get to that CVP. If we had been
8 given a target, I don't remember.
9 THE CHAIRMAN: Okay.
10 MS COMERTON: Thank you.
11 Were you aware of any other anaesthetists coming
12 into theatre to help Dr Taylor -- and I'm not talking
13 about the replacement -- at any time?
14 A. No, I don't remember. I wasn't -- I don't believe I was
15 there when the other people came in.
16 Q. Dr Montague, you weren't involved in any audit or review
17 of Adam's case; isn't that right?
18 A. That's correct.
19 Q. Did you discuss the matter with Dr Taylor?
20 A. I came into the hospital the next morning and I met
21 Dr Taylor in the theatre where the surgery had taken
22 place, actually, and he told me that Adam was likely to
23 die, that Adam had cerebral oedema, and at that stage he
24 was pointing out to me that the anaesthetic machine was
25 being quarantined so that it could be examined

1 afterwards in case there was a problem with the
2 anaesthetic machine. That's when I first heard that
3 Adam was, unfortunately, very ill.
4 Q. Did you have any further discussions with him about how
5 that state of affairs may have been arrived at?
6 A. I don't remember having any further discussion about
7 that, no.
8 Q. Well, I take it it was a bit of a shock to hear the news
9 about Adam.
10 A. Yes.
11 Q. Surely you must have gone on to discuss how that could
12 have happened with him. This is man you'd known for
13 a number of years.
14 A. Sure, and the first thing he said to me was that the
15 anaesthetic machine had been quarantined. So I didn't
16 know whether he was looking for some toxic effect from
17 some gas or something from the anaesthetic machine.
18 Q. Did you have any further discussions with Dr Taylor
19 after 28 November about Adam's case or death?
20 A. I knew that he was preparing for the coroner's inquest.
21 I would have seen him around the Royal. I was still
22 working at the Royal after I left the Children's
23 Hospital, so I knew there was a coroner's inquest coming
24 up.
25 Q. In fact, you had spoken to him after the inquest; isn't

1 that right?
2 A. I would meet Dr Taylor still at Paediatric Intensive
3 Care Society meetings. So I knew that he had been to
4 the coroner's inquest and I knew that the coroner had
5 decided that the cause of death was cerebral oedema and
6 hyponatraemia.
7 Q. Did you talk to anyone else about Adam?
8 A. Not in the Royal, no. I mean, I've spoken, as I said --
9 I teach about hyponatraemia and I talk about Adam every
10 time I teach about it.
11 Q. Okay.
12 THE CHAIRMAN: Sorry, just pause there. When you spoke to
13 Dr Taylor and you learned the inquest verdict of
14 cerebral oedema and dilutional hyponatraemia -- in
15 effect, that's raising issues about the anaesthetic
16 management, isn't it?
17 A. Yes.
18 THE CHAIRMAN: And what discussion did you have with
19 Dr Taylor about that?
20 A. I don't remember the details of the discussion.
21 I remember that he was unhappy about the verdict.
22 THE CHAIRMAN: Well --
23 A. And he didn't agree with the verdict.
24 THE CHAIRMAN: In your eyes, it clearly does -- well, unless
25 the verdict is wrong, it raises issues about the

1 anaesthetic management, right?
2 A. Yes, yes.
3 THE CHAIRMAN: And it particularly raises issue about
4 Dr Taylor. But to the more limited extent to which
5 you're involved in the anaesthetics, it must have raised
6 concerns for you.
7 A. I think what I learned from that or what I took from it
8 was the -- I feel the principal issue was the fluids
9 that was given, the nature of the fluid that was given.
10 And that's what I took from that and I --
11 THE CHAIRMAN: How did -- if Dr Taylor was telling you that
12 the verdict was wrong, how did you take that from what
13 you were being told or what you were finding out if
14 Dr Taylor wasn't accepting the verdict?
15 A. I knew that he had a measured sodium that was low.
16 He had a measured sodium that was low so he had
17 hyponatraemia. He had had a lot of -- he had fluid that
18 didn't have physiological levels of sodium in it. So
19 I concluded that he had hyponatraemia from the fluids
20 that were given.
21 THE CHAIRMAN: So in effect, are you saying that you
22 concluded, as a senior registrar at the time, that
23 Dr Taylor's reservations or rejection of the inquest
24 verdict was wrong?
25 A. I didn't agree with him.

1 THE CHAIRMAN: Right. Do you remember any broader
2 discussion about this because -- I mean, this is clearly
3 relevant to somebody continuing to practice
4 anaesthetics, isn't it?
5 A. Everybody can make a mistake. You know, everybody can
6 make a mistake and I think it's --
7 THE CHAIRMAN: I don't think Dr Montague that there's
8 a doubt -- everybody, of course, makes mistakes.
9 I don't think that Adam's family doesn't understand that
10 people make mistakes. The big concern is when people
11 make mistakes, with all due respect, you're the senior
12 registrar and you think that the consultant is wrong to
13 reject the inquest verdict. Everybody else in the Royal
14 accepts the inquest verdict and, so far as we can see at
15 the moment, nobody does anything about it. So it's one
16 thing to make a mistake; it's quite another thing for
17 Dr Taylor to go round with his head in the sand and for
18 everybody else around him to allow him to go round with
19 his head in the sand. Would you agree?
20 A. I can't tell you the page or where it is, but he has
21 said that his practice changed from that time and he no
22 longer gave Solution No. 18 in theatre. So perhaps he
23 maybe had difficulties saying that he accepted the
24 verdict, but he actually changed his practice. So he
25 did reflect on some of the issues that happened.

1 MS COMERTON: You were familiar with the condition of
2 hyponatraemia in 1995, Dr Montague?
3 A. I had read -- we had learned about hyponatraemia for our
4 fellowship exams, yes.
5 Q. And were you aware of the Arieff article that's been
6 referred to in the British Medical Journal?
7 A. No, I wasn't, unfortunately.
8 Q. Or the impact of dilutional hyponatraemia, in
9 particular, in relation to children?
10 A. I wasn't aware of that at the time, unfortunately.
11 MS COMERTON: No further questions.
12 THE CHAIRMAN: Thank you very much.
13 Are there any other issues?
14 Questions from MR HUNTER
15 MR HUNTER: One issue, please. Am I correct in saying you
16 didn't know who Dr Savage was?
17 A. That's correct.
18 Q. Were you aware of anyone coming in and out to theatre
19 at the time you were there?
20 A. I really don't remember whether anyone else came in.
21 I don't remember. That's the truth.
22 Q. And your experience from the City Hospital in
23 transplants that you were involved in there was that --
24 I think you said the nephrologists were always coming in
25 and out --

1 A. Yes.
2 Q. -- specifically to check the CVP.
3 A. Yes.
4 Q. So you had been involved in a number of renal
5 transplants?
6 A. Yes. A small number, but I had been involved in more
7 than one, two, three, four. I can't tell you the
8 specific number, but yes.
9 Q. And your experience from those and what you remember
10 from those is the nephrologists coming in to check the
11 CVP?
12 A. Several times during the case, yes.
13 Q. Would that not have been an experience that you would
14 have shared with Dr Taylor?
15 A. I'm not sure what you're -- I mean, Dr Taylor would have
16 probably had the same experience. He probably did some
17 adult renal transplants in the City Hospital as well.
18 Q. The point I'm making is that you yourself are aware of
19 the importance of the CVP and are you saying that at no
20 stage whilst you were in that theatre that you were
21 aware of what the CVP was?
22 A. I am saying to you I don't remember the value of the CVP
23 for Adam Strain. I don't remember that value, no.
24 Q. You've also said that you were a second pair of hands
25 and eyes for Dr Taylor.

1 A. Yes.
2 Q. Would it be fair to say then that if you're not aware of
3 CVP or what the CVP was, you never, ever looked at the
4 monitors?
5 A. I think that would be unfair to say. I'm sure I did
6 look at the monitors. The CVP went in and after the CVP
7 went in, I would have been preparing to put in the
8 epidural. I may have seen the CVP value. It was
9 17 years ago, 16-and-a-half years ago. I don't remember
10 the value of that CVP nor do I remember any
11 consternation or concern about what that value was from
12 Dr Taylor.
13 Q. Thank you. Finally, can I ask you: you said earlier
14 that you were monitoring vital signs?
15 A. Yes.
16 Q. Can I ask you which vital signs you were monitoring?
17 A. ECG, pulse rate, oxygen saturation, blood pressure. We
18 had an arterial line in, we could measure arterial blood
19 pressure. Temperature.
20 Q. But not CVP?
21 A. I'm not saying that I wasn't monitoring CVP. I can't
22 tell you exactly what his blood pressure was either.
23 I don't remember specific values.
24 MS COMERTON: Mr Chairman, I have been remiss. There is one
25 point I would like to put to Dr Montague.

1 Dr Montague, were you familiar with the transplant
2 coordinator, Eleanor Donaghy? She worked in the City
3 and also in the Children's Hospital.
4 A. I'm -- I think I was familiar with her. I certainly
5 remember her name. I don't remember --
6 Q. Yes. She has given evidence that at some point during
7 the surgery, she came in to the theatre and stayed there
8 for a while. Do you recall her being in the operating
9 theatre at any point?
10 A. I don't recall her being there, no.
11 MS COMERTON: Thank you.
12 MR UBEROI: No questions, thank you.
13 THE CHAIRMAN: Any other questions? Doctor, thank you very
14 much indeed. You are free to go.
15 A. Thank you. Like everybody that was involved in this
16 case, it's a tragedy for the family and I'd like to
17 express my sympathy on the loss of their precious little
18 boy.
19 THE CHAIRMAN: Thank you very much indeed. That's very
20 helpful.
21 (The witness withdrew)
22 THE CHAIRMAN: Dr McCallion is here, I think, is he? Let's
23 just continue. Dr McCallion, if you could come forward,
24 please.
25

1 DR WILLIAM MCCALLION (called)

2 Questions from MS ANYADIKE-DANES

3 MS ANYADIKE-DANES: Good afternoon. You have made two

4 statements, haven't you, for the inquiry?

5 A. Yes.

6 Q. You made a statement dated 5 January of this year; you

7 also made a statement dated 25 March of this year;

8 is that right?

9 A. That's correct.

10 Q. Do you have those statements with you?

11 A. I do.

12 Q. Are you standing over those statements subject to

13 anything that you might say in your oral testimony?

14 A. I do. In statement number two, there is a typographical

15 error regarding a date, where I refer to --

16 Q. Can you take me to that?

17 A. It is witness statement 232/2, the second page, third

18 paragraph, where I refer to "Broviac line removal on

19 9/5/95". That should read "9/2/95".

20 Q. Thank you very much. In May 1992, in your statement,

21 you were an SHO and you have described yourself as

22 "an SHO in lieu of registrar in paediatric surgery".

23 What does that mean?

24 A. In 1992 I had completed my basic surgical training.

25 I had passed the examination for the fellowship of the

1 Royal College of Surgeons, so that qualified me to apply
2 for a registrar's post and enter higher surgical
3 training. At that stage, there were no openings in
4 paediatric surgery. There was one officially recognised
5 surgical training post in paediatric surgery, which was
6 occupied in 1992 by Mr Richard Stewart. So I was, if
7 you like, a successor in waiting.
8 Q. Then you now are consultant paediatric surgeon at the
9 Children's Hospital?
10 A. Yes.
11 Q. Can you tell us the date of your appointment as
12 a consultant?
13 A. February 1998.
14 Q. Thank you. You also have said, in both your statements,
15 that you were on the Department of Health advisory
16 committee on hyponatraemia in 2003. What was your role
17 in that?
18 A. I attended a single meeting in the Department of Health.
19 I didn't retain a minute for that meeting. It was in or
20 around 2003. I don't recall the exact date. At that
21 time, I was the lead trainer for paediatric surgery in
22 Northern Ireland, so I'm assuming that I was there
23 representing paediatric surgery in the preparation for
24 a guideline in the management of hyponatraemia.
25 Q. This is the guideline that was, I think, issued in 2002.

1 Could that be what you're talking about?
2 A. It may have been 2002. I don't recall the exact date of
3 the meeting.
4 Q. You were there because you were the lead trainer for
5 paediatric surgery?
6 A. Correct.
7 Q. And so it was to get a paediatric surgeon's input?
8 A. Yes.
9 Q. Were you the only paediatric surgeon who was represented
10 there?
11 A. I think so. I think so.
12 Q. Thank you. You say you don't have any minutes of that
13 meeting. Does that mean that there were minutes of the
14 meeting, it just so happens that you don't have a copy
15 of them?
16 A. I can't recall receiving minutes of the meeting, so I'm
17 not sure if minutes were kept. I didn't chair the
18 meeting, so I don't know if minutes were circulated to
19 participants in that meeting afterwards.
20 Q. What was your contribution when you attended that
21 meeting?
22 A. I don't recall that either. There were a variety of
23 specialists around the table: general surgery, I recall,
24 adult anaesthesia, paediatric anaesthesia, and myself.
25 So I suspect my contribution would have been that of

1 a senior paediatric surgeon in fluid management in
2 children with paediatric surgical conditions.
3 THE CHAIRMAN: Can you recall how far along its line of work
4 the advisory committee was at that stage?
5 A. I think it was fairly far along. I don't think I was
6 involved at the outset.
7 THE CHAIRMAN: Thank you.
8 MS ANYADIKE-DANES: Maybe you might help you with this: do
9 you recall whether you participated in any discussion of
10 the actual guidelines themselves?
11 A. I don't recall.
12 Q. You don't recall that?
13 A. No.
14 Q. Okay. In your second witness statement, you discuss
15 three operations in relation to Adam. We can find those
16 on 232/2, page 2. The first of these is the insertion
17 of a double-lumen catheter by Mr Boston on
18 8 December 1991. If we just pull up alongside that, if
19 it works this way, we can look at the X-ray. That's
20 300-095-196. There we are.
21 Can you describe what was going on in that operation
22 and what we can see in that X-ray?
23 A. A double-lumen central venous catheter has been inserted
24 into a neck vein. At the top aspect of that X-ray, you
25 can see a hairpin bend. I can't move the mouse,

1 unfortunately.

2 Q. Is that it there?

3 A. Yes, there (indicating). That's the hairpin bend, so

4 that is in and around where the catheter will have been

5 inserted into the vein. Further down towards the left,

6 approximately there (indicating), that is the skin entry

7 site. So the double-lumen catheter will have been

8 inserted at skin level at the lower marking on that

9 X-ray, tunnelled under the skin and then inserted via

10 a separate wound into the vein and the vein that was

11 used on that particular day was the external jugular

12 vein, which is a tributary of the main internal jugular

13 vein.

14 Q. I wonder if it helps if we try and look at a diagram

15 that will help us with the vein, so that we try and

16 understand what's going on where. I think there's one

17 in the report of the inquiry's expert surgeons. I'm

18 just trying to pull that up.

19 Let's go to the page in it. It's 203-008-107. If

20 I find it where it stands alone, we'll pull that up.

21 Maybe we can just expand that diagram there. Does that

22 help in explaining the veins at issue?

23 A. Yes. Pretty much. You can see the external jugular

24 vein clearly identified, lying to the outside of the

25 internal jugular vein, which is also clearly marked.

1 Normally, the lower end of the external jugular vein
2 would enter the internal jugular vein. In this diagram,
3 it is shown to enter the subclavian vein.
4 Q. In any event, if you can help us by directing exactly
5 where this is going on. You know, of course, that there
6 is an issue as to whether the left internal jugular vein
7 was ligated or not and what we're trying to understand
8 is where exactly the central lines were being passed,
9 where any ligature might be and therefore how that helps
10 us understand the pathologist's report on autopsy.
11 That's the purpose of on it and you're in a good
12 position to help us because you were there to insert one
13 of the relevant ones. So if you can talk us through
14 what you think was happening at this stage, which is not
15 the one you participated in; this is Mr Boston's line
16 going in.
17 A. Well, Mr Boston was a very experienced surgeon, so he
18 would clearly have known the difference between an
19 external jugular and an internal jugular vein. He would
20 have had controlled the external jugular vein through an
21 incision in the neck. By "controlling", I mean place
22 ligatures around the external jugular vein to prevent
23 bleeding, and he would then have passed the double-lumen
24 catheter along the external jugular vein and then into
25 the lower aspect of the internal jugular vein towards

1 the heart. So in this operation, the internal jugular
2 vein would not have been handled per se.
3 Q. There's a bit of an issue as to whether it's -- if one
4 looks at the operation note, and I can take you to that.
5 That is 050-008-031. The particular page which I'd like
6 to take you to is the next page, which is 032. It
7 starts with:
8 "A double-lumen Hickman line was railroaded from
9 a stab incision on the left chest wall to the cervical
10 incision inserted into the external jugular vein."
11 Do you, in your witness statement, consider that to
12 be a typographical error?
13 A. It is a typographical error.
14 Q. How is it that you're able to reach that view?
15 A. Because you can see from the chest X-ray you showed
16 a moment ago that almost certainly the entry site on the
17 chest wall was on the right-hand side of the chest,
18 which would coincide with use of the right external
19 jugular vein. It would be inconceivable that a surgeon
20 would make a skin incision on the left side of the chest
21 wall, but access the right external jugular vein.
22 Q. So although, at first blush, this looks like a central
23 line that might be in the right area, actually it's not
24 because there's a typographical error in the surgical
25 note, if I can put it that way, and you can see the

1 evidence of that from the X-ray?
2 A. There's radiological evidence that this double-lumen
3 Hickman line inserted on the right side of the neck,
4 not the left.
5 Q. So that makes this procedure completely irrelevant for
6 the purposes of trying to understand what is being
7 recorded in the report on autopsy?
8 A. Correct.
9 Q. So we dispense with that and we move on to an operation
10 in which you were involved with. That is the insertion
11 of a Broviac line on 29 May 1992. The operation note
12 for that can be seen at 053-015-052. That's your
13 operation note, isn't it?
14 A. That's correct.
15 Q. There are a number of you indicated there as surgeons.
16 There is an issue as to exactly who was doing what, if I
17 can put it that way. Mr Stewart in his witness
18 statement, I think is seeking to clarify exactly what
19 role people had.
20 If one looks at his witness statement at 228/1,
21 page 2, then if you see under (a), the operative note
22 says:
23 "From the operative note, I was second assistant
24 helping Mr McCallion and Mr Brown as the third
25 assistant."

1 Does that mean that you were the lead surgeon
2 in that procedure?
3 A. Yes.
4 Q. And I think if one actually -- Mr Brown was carrying out
5 the cystoscopy; is that right?
6 A. Cystoscopy, correct. That's as I understand it.
7 Q. We can see that from 054-057-131. Right down at the
8 bottom:
9 "Cystoscopy, Mr Brown."
10 He gave evidence to say although it's not
11 100 per cent clear from that, he was of the view -- or
12 the very clear indication is that that was his role and
13 his evidence was given, just for reference --
14 THE CHAIRMAN: He said he was called in for that particular
15 element of the operation. Does that fit with your
16 analysis of it?
17 A. It would do. I don't recall. This surgery was 20 years
18 ago, so I don't recall the specific operation. But
19 I think it's fair to say I was the lead surgeon being
20 assisted by Mr Stewart and probably Mr Brown's role was
21 to perform the cystoscopy.
22 MS ANYADIKE-DANES: This is your note, isn't it?
23 A. Yes, that is my handwriting.
24 Q. So if you have put his name in brackets by the
25 cystoscopy, that would seem to indicate that he was, at

1 least, doing that primarily?
2 A. Correct.
3 Q. Thank you. Just for completeness, there is another
4 procedure which is pretty fundamental to your argument
5 as to what was left for the pathologist to see. That is
6 the removal of the line that you inserted. That one can
7 see at 057-102-189. It is a bit faint. Down at the
8 bottom, the 9th. Highlight that. We can see vaguely,
9 "Broviac line removed" and "GA", general anaesthetic.
10 That's 9 February and that's the correction you made
11 in your second witness statement as to dates, isn't it?
12 A. That's correct.
13 Q. If we go also to 054-057-131. If we go over the page,
14 it might -- let's see. I'm trying to see if we can see
15 a removal there. Maybe not.
16 THE CHAIRMAN: We're in May 1992?
17 MS ANYADIKE-DANES: In any event, we can see the removal
18 from that first note. What I want to ask you about is:
19 if you insert the line in, as you did in 1992, and it's
20 removed in 1995, what's the effect of that on the vessel
21 in which you inserted it, if I can put it that way?
22 A. The vessel used to insert the Broviac line in May 1992
23 was the common facial vein, which is a small tributary
24 vein, just under the angle of the jaw. So that vein
25 would have been ligated at the time of surgery

1 in May 1992. So that vein would be occluded.
2 Q. Can we just be clear on what ligated means? While
3 you're doing that, let me pull up a diagram that
4 Mr Stewart included in his witness statement. The
5 reference is 228/1, page 2. Maybe we can blow that up
6 a little bit, that 543 diagram. Help us with that.
7 A. Mr Stewart has, on the right-hand side of the diagram,
8 circled "C facial", which refers to the common facial
9 vein. Unfortunately in that diagram, it doesn't
10 illustrate the internal jugular vein. It does show the
11 common facial vein, it shows the external jugular vein,
12 but it does not, in fact, show the internal jugular
13 vein.
14 Q. But in any event, what you had done was to put your
15 catheter down?
16 A. Through the common facial vein, ligating -- or tying
17 off -- the common facial vein and then threading the
18 Broviac catheter along the internal jugular vein, but
19 without handling or touching the internal jugular vein.
20 Q. So just literally passing it through it?
21 A. Correct.
22 Q. When you take it out what do you do? I know you
23 physically didn't do it, but what happens when you take
24 it out?
25 A. The principle of removing a central venous catheter is

1 to apply traction at the skin exit site -- so that is
2 the skin exit site --
3 Q. Does that mean gentle pulling?
4 A. Gentle pulling of the Broviac catheter at the exit site
5 on the chest wall and that's some distance remote from
6 the neck wound. So in a child, it would be roughly
7 at the level of the nipple on left or right side.
8 Q. So when you gently pull it like that, does that mean
9 it's not secured by any sutures?
10 A. There would be a ligature in place at its entry site
11 into the vein, but what secures it in place at the skin
12 exit site is a piece of Teflon, which creates an
13 inflammatory reaction, a fibrous scar tissue reaction
14 at the skin site. And after a number of weeks when the
15 Broviac or Hickman line is in situ, scar tissue has
16 effectively welded the Broviac line in place.
17 Q. So that's what you open up when you pull it?
18 A. Yes.
19 Q. And when you're pulling it, it is not secured by
20 anything, so you pull it gently with pressure and take
21 it out?
22 A. Correct.
23 Q. When you have done that, what happened to the place
24 where you ligated originally?
25 A. There will be a small hole in the vein -- a venotomy --

1 where the catheter had been and it would be normal
2 practice after the line has been removed to put some
3 gentle pressure on the site of the vein. So even though
4 when the catheter has been removed through a wound on
5 the chest wall, we would apply gentle pressure on the
6 site of the hole in the vein, deep in the neck, and
7 usually within a minute or so, there is no evidence of
8 bleeding or swelling. That's all that needs to be done.
9 Q. And if you do that, does that mean in some way it's
10 healing up and so that vein is essentially lost?
11 A. Not necessarily. It means that a small clot of blood
12 has gathered in the hole in the vein. And that would
13 happen very quickly, within a minute or two. If the
14 vein had previously been ligated, as was the case with
15 the common facial vein, then that vein would not be used
16 again.
17 Q. So that's lost?
18 A. That's lost.
19 Q. Because it's blocked off essentially?
20 A. Yes. But there are scenarios where one can reuse
21 a central vein such as the internal jugular vein. If
22 I pass a Broviac line directly into an internal jugular
23 vein, which would be my standard practice nowadays, if
24 I remove a central venous catheter from that vein which
25 had not previously been ligated, then that internal

1 jugular vein can be reused at some stage in the future,
2 providing it remains patent. But there is no guarantee
3 that it will retain patency.
4 Q. But you're giving yourself the option that it might --
5 A. Correct.
6 Q. -- as opposed to the previous procedure when you ligate
7 it and you know it's definitely not going to be?
8 A. Correct.
9 Q. Thank you. In fact, I think we can look just briefly at
10 the evidence of both Dr Taylor and Dr Haynes on this
11 point. I wonder if I take you to Dr Taylor first. His
12 evidence was on 20 April. The reference is page 87, and
13 I think it's going to start at line 8. He starts
14 saying:
15 "There's two types of central line. One is what
16 you have just been talking about."
17 Which is the Broviac line. He says:
18 "It's often surgically placed. It requires
19 a surgeon to do a cut down, so open the skin with
20 a scalpel and use stitches, a one-hour procedure. They
21 identify a certain vein, usually in the neck, and they
22 insert the catheter, the central line, through that
23 vein. They have to put a suture or ligate the vein,
24 usually above and below where they have made the
25 incision into the vein. Because when you cut open

1 a vein with a scalpel, you have left a hole in it. So
2 once they do that -- and perhaps a surgeon could explain
3 this better than I -- the vessel is then often lost to
4 future patency. It loses its patency, it's blocked off.
5 Occasionally, it can recannulate. The human body has
6 miraculous powers sometimes to finds another way through
7 an obstruction, but by and large, I would say that a
8 Broviac line, when it's passed, causes the vessel to be
9 lost to future use at that point."
10 And then he goes on to distinguish between that and
11 an anaesthetic line, which he says he would commonly use
12 and he calls that a percutaneous line. Do you accept
13 what he says?
14 A. For the most part. If one has ligated a vein during
15 insertion of a catheter such as a Broviac line, if the
16 vein has been ligated with a suture, that vein has been
17 lost to future patency. By definition, it has been lost
18 to future patency. Collateral veins can open up around
19 side that obstruction. I suspect that it what he means
20 by "miraculous powers, sometimes find another way
21 through the obstruction". So they bypass --
22 Q. I was just going to ask you that. That simply means
23 that there are other routes for the flow of blood. It
24 doesn't mean that they miraculously open up what was
25 previously the blocked off vein.

1 A. No. There would have been tiny veins, sometimes that
2 may not be even visible to the naked eye, carrying very
3 small quantities of blood. But in the presence of an
4 obstruction such as ligation of the internal jugular
5 vein, these tiny veins then expand to carry a much
6 larger volume of blood.
7 Q. Than they would previously have. And I presume that's
8 relevant if you're concerned about whether you have
9 affected the drainage, for example, ie the extent to
10 which these other tributatries can carry, perhaps, a
11 greater flow of blood than they otherwise would have
12 done --
13 A. That's my understanding.
14 Q. -- to compensate for that blockage, if I can put it that
15 way?
16 A. That's my understanding, yes.
17 Q. Let me put up what Dr Haynes says. His evidence was on
18 2 May. The page is 181. If we start at line 22. I am
19 putting to him these questions as to the implications of
20 these sorts of procedures on patency. He says that
21 depends on a variety of factors:
22 "Short-term means of central venous access and
23 longer term."
24 If we go over the page, you can read that quickly.
25 I don't mean to read out whole tracts of the evidence,

1 but you can see what he's saying. And then he says:

2 "This kind of line is inserted when it is known that

3 a patient is going to need long-term venous access.

4 Typically, this would be a patient who is receiving

5 chemotherapy. Adam had one in place for a significant

6 period of time without incident ..."

7 And then if we go on, he's asked a question as to

8 how long that can be sustained and in Adam, we know it

9 was from 1992 to 1995. I think you expressed some

10 surprise at the length that that was capable of being

11 sustained. Dr Haynes didn't think it was, although

12 I think he referred to it as a testament of the quality

13 of care that Adam received that it actually remained

14 there for that length of time. Then he goes on -- well,

15 I ask him the question about patency. If we go over the

16 page for his answer:

17 "There are two reasons why the patency of the venous

18 system, draining the head and neck, may be compromised

19 in the face of a Broviac line. One is the fact that

20 you have an indwelling foreign object in the vein for a

21 period of time. In this case, we know it was there for

22 about three years. This will cause an abnormal pattern

23 of flow and thus increase the likelihood of thrombus or

24 clot formation."

25 And I think you identified yourself the possibility

1 of clot formation.
2 A. Correct.
3 Q. In your second witness statement, I believe:
4 "The other is the manner in which it is inserted.
5 I have seen from the various pieces of evidence
6 presented to me that there is some discussion as to the
7 vein in which it was inserted."
8 Then he goes on to talk about the incision and how
9 it's done. And then I ask him about, irrespective of
10 the vein, the issue of patency. And if one goes over
11 the page, perhaps we can catch his answer to that. Then
12 he talks about:
13 "If you do ligate the vein draining at the point of
14 insertion, the vein is no longer patent."
15 "Although if you make the insertion and you put it
16 through a suture, what's the effect of that on patency?"
17 He says:
18 "You have lost the smoothness of the vessel wall and
19 there is an increased likelihood of thrombus and
20 ultimate scarring."
21 But I think he doesn't necessarily think it has lost
22 its patency. Is that the distinction that you are
23 making, that it's possible to retain the patency of the
24 vein if you're careful about the way you do it?
25 A. Absolutely.

1 Q. But in this case, are we talking about having lost the
2 patency of the facial vein?
3 A. We're talking about having lost the patency of the
4 common facial vein because that was ligated. We're not
5 talking about losing the patency of the internal jugular
6 vein because that wasn't touched during the course of
7 insertion of that Broviac line.
8 Q. And I take it there is nothing that could have been
9 done, even inadvertently, that would have given rise to
10 any compromise of that internal jugular vein?
11 A. No, except that the Broviac line was in situ for, in my
12 view, an extraordinary length of time. If it helps the
13 inquiry, we in fact audited central venous catheters
14 in the Children's Hospital in the mid 2000s, and the
15 average length of time that a Broviac line was retained
16 in a neck vein was four months as opposed to 32 months.
17 Q. Do you have a target time which you don't really want
18 them to be in for very much longer than whatever it
19 might be?
20 A. If the Broviac line remains patent, we don't have a
21 target time. The catheter would remain in situ for as
22 long as the clinicians required it. For example, the
23 most common reason to insert a central venous catheter
24 would be in a child cancer patient requiring
25 chemotherapy. Once the chemotherapy is completed, the

1 central venous catheter is removed. In Adam's case,
2 it would appear that Professor Savage and colleagues
3 required use of the central venous catheter for
4 intravenous access, intravenous antibiotics, et cetera,
5 et cetera, over a prolonged period of time. So in the
6 absence of infection in the central venous catheter,
7 then it would have been left in situ.
8 Q. Thank you. I wonder if we could pull up Dr Armour's
9 report so we can see what we're actually dealing with.
10 That's 011-010-034. This is her report on autopsy. If
11 we go to 039, to the top:
12 "The internal examination of the neck. No evidence
13 of congestion or obstruction of the major blood vessels
14 or the carotid arteries and jugular veins."
15 If there had been the sort of thrombosis that you
16 feel could occur with a Broviac line being kept in for
17 an unduly long period of time -- and you said three
18 years, in your view, would fit that bill -- so if that
19 had happened, how would that have been described if you
20 had exposed the neck structures and looked at it?
21 A. If a thrombus had been identified in an internal jugular
22 vein, I would have thought that that would have been
23 obvious at the time of post-mortem if the major vessels
24 in the neck had been specifically examined.
25 Q. So if they had and if there had been a thrombus of this

1 sort, then you couldn't really describe that as "no
2 evidence of congestion or obstruction" in your view?
3 A. Correct.
4 MR BOYLE: Forgive me sir [inaudible: no microphone] Dr
5 Armour. This is the first time I have made any
6 representations to you during the course of the hearing.
7 It might not be appropriate to ask this particular
8 witness how a vein might appear at post-mortem unless
9 of course, Mr McCallion, has some experience of
10 performing post-mortems.
11 THE CHAIRMAN: Well, let's see how far Mr McCallion can help
12 us. First of all, do you have any experience in
13 post-mortems?
14 A. I have no experience in post-mortems.
15 THE CHAIRMAN: Well, you're really querying what Dr Armour
16 has written there. Is that on the basis of the evidence
17 which you have just given about your involvement in and
18 familiarity with the various operations which may be
19 relevant to congestion or obstruction?
20 A. With respect, Mr Chairman, I'm not actually querying
21 what Dr Armour has written. I was asked the question if
22 a thrombus was present in the jugular veins, would it
23 have been obvious at post-mortem. I understand that's
24 the question that is being asked.
25 MS ANYADIKE-DANES: Yes, it is.

1 A. And my understanding is that it would be obvious at
2 post-mortem. However, there is no guarantee that a
3 thrombus was present in the internal jugular vein at the
4 time of post-mortem.
5 THE CHAIRMAN: Thank you.
6 MS ANYADIKE-DANES: And I think Dr Haynes has said --
7 I don't think you disagree with him -- that the presence
8 of a catheter of that sort may -- its very presence may
9 also cause a degree of scarring or some sort of
10 response, if I can put it that way, from the vessel
11 itself, just by having a foreign body there. Would you
12 accept that?
13 A. It would increase the risk of -- there would certainly
14 be turbulence of blood flow along the internal jugular
15 vein with a catheter in situ. That, in turn, would
16 increase the risk of thrombus. I wouldn't have thought
17 that would mean that a thrombus would definitely occur.
18 It would increase the risk of thrombus.
19 Q. I expressed myself badly. Once you had taken that line
20 out, would there be any evidence of the fact that there
21 had been such a line for such a length of time?
22 A. In the absence of thrombus, there would be no evidence
23 that I can think of that a Broviac line would have been
24 placed in the internal jugular vein on this particular
25 occasion because we had used the common facial vein to

1 access the internal jugular vein indirectly.
2 Q. I understand that. And then if we just carry on with
3 what is in this report on autopsy. So there was
4 a suture in situ on the left side of the neck on the
5 junction of the internal jugular vein and the subclavian
6 vein. You have provided us with your witness statement,
7 Mr Stewart has provided a witness statement, but just so
8 that we understand, what would have had to happen in the
9 procedure that you carried out in 1992 for that to have
10 been the result, if I can put it that way?
11 A. Yes, I understand. The junction between the internal
12 jugular vein and the subclavian vein is, if you like,
13 hidden behind the clavicle, the medial end of the
14 clavicle, where it joins the sternum. It is
15 inaccessible from a neck wound.
16 If it helps the inquiry, in my 20-odd years in
17 paediatric surgery, I would probably have placed in
18 excess of 500 central venous catheters, the majority in
19 and around the jugular venous system and I have never
20 seen the junction of the internal jugular vein and the
21 subclavian vein because it is so inaccessible behind the
22 clavicle.
23 Q. We have a diagram that Mr Stewart provided. Maybe this
24 can help explain what you're talking about. It's at
25 228/1, page 3. There. If we expand that a little bit.

1 You can see the junction there that, I think, Mr Stewart
2 has indicated with a arrow at the bottom. So far as you
3 can understand what is written in the report on autopsy,
4 is that where Dr Armour is saying the suture was?
5 A. Well, that is what I understand having read Dr Armour's
6 report.
7 Q. In the light of the procedure that was carried out,
8 can you explain how that could or could not be the case?
9 A. Well, it can't have been the case in the operation that
10 was performed on 29 May 1992. In the same diagram, you
11 can see circled the common facial vein, which is at the
12 other end of the internal jugular vein. What is not
13 shown in this diagram is the relationship of this venous
14 anatomy to the clavicle. If you refer to the lower end
15 of the common facial vein, where there's an arrow
16 labelled "inferior bulb", the clavicle would be coming
17 across from left to right in the region of the inferior
18 bulb.
19 Q. Okay. So just so we get it, you're passing your line
20 through that common facial vein?
21 A. Yes.
22 Q. To end up where?
23 A. From the common facial vein, the Broviac catheter would
24 pass downwards through the internal jugular vein,
25 through the inferior bulb, beyond the junction of the

1 subclavian vein and continuing through the vein that's
2 labelled "SVC" -- that's the superior vena cava -- and
3 then on downwards towards the heart.
4 Q. Where you would have ligated it is where exactly?
5 A. Where you can you see the common facial vein joining
6 the internal jugular vein. At exactly that point.
7 Q. Right. Is it possible for sutures to migrate in any
8 way?
9 A. It is certainly possible for suture materials to become
10 encased in scar tissue and scar tissue can certainly
11 shrink and contract. Is it possible that the scar
12 tissue contracted from the top aspect of the neck to the
13 lowest aspect of the neck behind the clavicle. I would
14 think that's very unlikely.
15 Q. So if you'd put your ligature where you said it was,
16 which is just at that junction there, is your evidence
17 that it would be very unlikely for that to have somehow
18 found its way down to the point where it is described
19 in the report on autopsy?
20 A. I cannot imagine it having migrated that distance.
21 Q. Thank you. And just so that we have it, in terms of how
22 long a suture would survive intact -- that may not be
23 the appropriate medical term -- we know what kind of
24 suture it was and I think you provided in your evidence
25 some reference to the manufacturers as to how long such

1 a suture would continue for. What is not clear exactly
2 is whether that manufacturer's information is describing
3 the suture as you used it in 1992. I'm just trying to
4 find that for you.
5 MR BOYLE: 306-049-001.
6 MS ANYADIKE-DANES: Thank you very much indeed. That would
7 appear to indicate 182 to 238 days.
8 A. Yes.
9 Q. Is that your understanding?
10 A. That's my understanding.
11 Q. So I think your view is that that suture would not still
12 be there at the time when the autopsy was carried out?
13 A. Not three years later, no.
14 Q. And even if it's not there in its entirety, when it says
15 the -- what actually does "absorption" mean? Does it
16 mean it dissolves away, it becomes embedded in the
17 tissue? What exactly does it mean?
18 A. There's an inflammatory reaction. This is part of the
19 body's healing process and white blood cells, which are
20 there primarily to fight infection, will gather around
21 the suture material, they will release chemicals or
22 enzymes which then dissolve the suture material away.
23 PDS is used very widely in surgery because it remains in
24 situ and retains its tensile strength for a period of
25 time until the body can create scar tissue. So the

1 standard teaching in surgery is that PDS would remain in
2 situ for approximately 6 months. In other words, 182
3 days.
4 Q. So there would be nothing left at all?
5 A. There would be nothing left, and again, if it helps the
6 inquiry, I have performed revision operations on many
7 children in my career, who previously would have had PDS
8 sutures -- for example, in the abdominal cavity -- and
9 I would not anticipate finding PDS sutures in the layers
10 of the wound or in deeper tissues beyond 6 months.
11 I don't ever recall having found that.
12 Q. Does it mean you have carried out surgery where there
13 would previously be sutures of that sort? So although
14 you may not have got any experience as a pathologist,
15 you have nonetheless had a look at parts of the body of
16 children where you would knew sutures had previously
17 been?
18 A. Correct.
19 Q. So you're in a position say what that looks like?
20 A. Correct.
21 Q. Can you tell at all if a suture had been there?
22 A. You can tell that there is scar tissue. But I have
23 never come across a situation where PDS had been used at
24 some stage in the past -- for example, beyond 9, 12
25 months -- and there was still a remnant of the PDS

1 suture left behind, if you understand -- where it had
2 persisted.
3 Q. So we're clear about this: is it possible to have used
4 a suture which would still be evident that length of
5 time after its insertion?
6 A. It is possible.
7 Q. Do you actually remember, over and above the surgical
8 note, what suture you used?
9 A. I don't remember the specific operation. The most
10 commonly used suture would have been the PDS suture.
11 That's what we would have asked for in 1992. That's
12 what I ask for in 2012. That's what I would expect the
13 scrub nurse would have handed to me on the day.
14 Q. And why is that?
15 A. As I've said already, we want a suture to remain in
16 situ, in this case to ligate a vein, for a sufficient
17 length of time until the body's own scar tissue has
18 replaced that vein, that suture. And then we want the
19 suture material to then dissolve completely. There are
20 relatively few scenarios in surgical practice we want to
21 have a suture material placed in a child that will
22 remain lifelong.
23 Q. So even though you can't specifically remember it, this
24 was your practice and there'd be no medical or surgical
25 reason for you to have used any other suture than that

1 which is recorded on the note?
2 A. Not for placement of a Broviac line, that's correct.
3 Q. Thank you very much. In the intervening period between
4 1992, when you inserted that line, and 1995, when it was
5 removed, there was a chest X-ray taken. That X-ray was
6 taken on, I believe, 5 May 1993, and I think we can see
7 it at 301-122-660. There. Does this help in explaining
8 whether or not the left internal jugular vein was patent
9 after your insertion of the Broviac line?
10 A. It does help.
11 Q. How does it help us?
12 A. Well, the top end of the vein -- sorry, the top end of
13 the X-ray, just to the right of the midline, you can see
14 a thin line. If you continue upwards it looks as though
15 it wants to form a hairpin bend, but the apex of the
16 hairpin bend has been lost at the top of the X-ray.
17 Q. I see, yes.
18 A. It's at that hairpin bend, high in the neck, that would
19 correlate with the point of insertion into the common
20 facial vein.
21 Q. Oh, so you're not able to tell anything about the
22 quality of the internal jugular vein, but what you're
23 able to tell is where the line is?
24 A. I was coming to that. If you follow the Broviac line
25 through your yellow box and then, just below where the

1 square is on the screen at the moment, it's very close
2 to where the -- just about there is close to where the
3 tip or the end of the Broviac line is. To get from the
4 hairpin bend down to where your "X" is on the X-ray, it
5 has to have passed through the internal jugular vein,
6 which means that, at that point in time, on 5 May 1993,
7 the internal jugular vein was still patent.
8 Q. Otherwise it couldn't have passed through?
9 A. Correct.
10 Q. Can you see sutures in a X-ray?
11 A. Not the sutures that we were using at that time, unless
12 they were metallic sutures. But they would not have
13 been used.
14 Q. So the assistance that you get from these X-rays is
15 seeing where the line is?
16 A. Correct.
17 Q. And when you see where the line is, you're able to tell
18 what is or is not ligated and blocked off?
19 A. Correct.
20 Q. Is that one of the reasons why you do that, so you see
21 what's still available to you, if I can put it that way?
22 A. Not that particular chest X-ray. There was a X-ray
23 taken at the time of insertion on 29 May and it was
24 taken specifically to look at where the end of the
25 Broviac line had gone to ensure that it was passing down

1 towards the heart. The chest X-ray that's on the screen
2 right now would have been taken for a different purpose,
3 perhaps the child had developed a fever and
4 Professor Savage wanted to know if the child had
5 developed a chest infection, for example.
6 MS ANYADIKE-DANES: I think we can see the 29 May one at
7 301-122-659. What are we looking at?
8 A. This is the chest X-ray that was taken in theatre --
9 "theatre" is clearly marked on the X-ray -- the top
10 right-hand square where it states Adam's name and then
11 the date. If you look at the bottom left-hand corner of
12 that square, that almost coincides with the hairpin
13 bend.
14 Q. Roughly the same position that you were just indicating
15 on the subsequent X-ray?
16 A. Yes. But, importantly, that hairpin bend is
17 approximately at the level or the angle of the jaw,
18 which is where we would anticipate finding the common
19 facial vein. If you then look down a little bit, if you
20 can -- I'm not sure how obvious it will be where the
21 clavicle or the collarbone is. Down a little bit.
22 Further down. Down a bit. Just there. Just slightly
23 to the left of that, that is where one would expect to
24 find the junction of the internal jugular vein and
25 subclavian vein, behind the left-hand end of that

1 clavicle, in and around there.
2 Q. So this was being taken to establish that you'd put the
3 line where you -- well, if I can put it that way, put
4 the line where you wanted it to go. But it has a double
5 service because it actually now establishes that the
6 left internal jugular vein was patent at that stage?
7 A. Correct.
8 Q. Then you have a subsequent X-ray, which wasn't anything
9 to do with trying to show where lines were, but that
10 also has a benefit because it shows at a point in time
11 after this procedure the -- it was still patent in 1993?
12 A. Correct.
13 Q. And then you can establish through the notes and records
14 that that line was actually removed in February 1995
15 before Adam's surgery?
16 A. Correct.
17 Q. And therefore, so far as you're concerned, you don't
18 understand how it could be that a suture was being
19 exposed at autopsy?
20 A. I can't explain that.
21 MS ANYADIKE-DANES: I wonder if you would just give me one
22 moment.
23 Mr Chairman, I don't really have any other
24 questions.
25 THE CHAIRMAN: Thank you. Are there any questions from

1 anyone?

2 Questions from MR BOYLE

3 MR BOYLE: Sir, if I may, one or two questions.

4 If we could return to the X-ray we had visible,

5 301-122-659. Does the X-ray assist us with the point of

6 incision?

7 A. There are two incisions when a central venous catheter

8 is placed. There's one incision on the chest wall and

9 there's a second incision in the neck, but that

10 particular chest X-ray does not help you with the site

11 of the incision.

12 Q. I wonder if you can be referred, please, to your first

13 witness statement, which is witness statement 232/1. If

14 we go to page 2, please. If we highlight under 2(a),

15 please. I don't know if we can blow that up so it can

16 be seen more clearly. The question you were asked is:

17 "State exactly where incisions were made on Adam's

18 neck to insert the Broviac line, illustrating with

19 a diagram if helpful."

20 You have said:

21 "The incision on his neck would have been made above

22 the left clavicle and below the angle of the left jaw.

23 However, I do not recall the exact location of the

24 incision."

25 Is the left clavicle closer to the junction of the

1 internal jugular vein where Dr Armour has described what
2 she believed to be a suture than, for example, the
3 common facial vein?
4 A. Sorry, repeat the question for me, please.
5 Q. Perhaps if we do it by reference to a diagram, it might
6 be easier. Can we bring up Mr Stewart's statement and
7 the diagram, which is 228/1? Although you said in your
8 evidence just a moment ago that we couldn't see the
9 internal jugular vein, at the bottom of this diagram
10 we can see the junction, can we not, between the
11 internal jugular and the subclavian vein, which is where
12 Dr Armour --
13 A. Correct.
14 Q. -- says that she thought she saw the suture?
15 A. Correct.
16 Q. Further up the neck, closer to the jawbone, we see the
17 common facial vein; yes?
18 A. Correct.
19 Q. In your statement, you describe the incision would have
20 been made above the left clavicle and below the angle of
21 the left jaw.
22 A. Correct.
23 Q. And the question that I think I put to you was: is the
24 clavicle in fact closer to this junction between the
25 internal jugular than the subclavian vein?

1 A. It clearly is, yes.
2 Q. Did you, when you were making your witness statement,
3 refer to the fact that the incision on the neck would
4 have been made above the left clavicle and below the
5 angle of the left jaw? By referring to the fact of the
6 left clavicle, does that tend to support perhaps the
7 incision being closer to the clavicle than being to the
8 jawline?
9 A. It doesn't because I couldn't remember, because it's
10 20 years ago and I don't remember this specific
11 operation.
12 Q. In May 1992, we know that Adam would have been nine
13 months old. Just in terms of the anatomy, what kind of
14 distance would we have been talking about between that
15 junction of the internal jugular and the common facial
16 vein?
17 A. I think that question's very pertinent. The diagram
18 that is shown on screen relates to relevant adult
19 anatomy and clearly the distance between the angle of
20 the jaw and the clavicle in a nine-month old child would
21 be considerably shorter. This is something I've given
22 some thought to. I am estimating that the distance
23 between the angle of jaw and clavicle in a nine-month
24 old baby would be in and around 4 to 5 centimetres and
25 I'm assuming therefore that the wound that I made in the

1 neck -- I'm speculating, but the incision would have
2 been made approximately midway between the angle of the
3 jaw and the clavicle.
4 Q. And again, if you can assist us with the dimensions in
5 a nine-month child of, for example, the internal jugular
6 vein and the common facial vein in terms of, for
7 example, millimetres and diameter.
8 A. Sure. The internal jugular vein in the average -- and
9 I stress again that I can't recall the specific
10 operation, but a nine-month old baby -- I would expect
11 the internal jugular vein to be 5, 6 millimetres in
12 diameter. Common facial vein would probably be of the
13 order of 2 millimetres, something like that.
14 Q. Having made an incision in the neck in the location
15 which you have described, presumably at the end of the
16 procedure that incision or that wound has to be sutured?
17 A. Correct.
18 Q. And is that done in layers?
19 A. The wound would be closed in layers. There would be
20 a series of sutures in the fatty tissue immediately
21 underneath the skin and an additional row of sutures in
22 the skin.
23 Q. And would there be a suture placed in a vein at the same
24 time?
25 A. The common facial vein.

1 Q. Is it possible that the suture was in fact placed in the
2 internal jugular?
3 A. I don't believe so.
4 Q. But it's possible?
5 A. I don't believe so.
6 THE CHAIRMAN: I think he's just said he doesn't think it's
7 possible.
8 MR BOYLE: Very well.
9 I appreciate you weren't involved in the removal of
10 the line, but to remove the line, does that also require
11 the placement of a suture or sutures?
12 A. It requires the placement of a suture.
13 Q. Okay. Can we bring up, please, the operation record for
14 the removal of the line, which is 057-102-189. It's the
15 bottom entry, very difficult to read, so difficult to
16 read that I am not sure that I can. Can you make out
17 any reference on this document to any sutures at all?
18 A. There is no reference on that document to use of
19 a suture. However, in the nursing record they refer to
20 a suture.
21 Q. Can I bring up then, please, 057-078-147. The note that
22 we've just looked at was the operation record so the
23 surgeon's note doesn't refer to the placing of any
24 sutures at all, although your evidence is a suture must
25 have been placed; yes?

1 A. Correct.
2 Q. And here we have -- this is a document which has
3 a heading on it, "swab count". Towards the bottom
4 left-hand side of the page it says:
5 "Suture needle times one."
6 A. Correct.
7 Q. Is that the reference that you were --
8 A. That's correct.
9 Q. And that is a reference, isn't it, to the -- perhaps the
10 types of equipment or resources used during the course
11 of the procedure; is that right?
12 A. It refers to Raytec swabs being used and it refers to
13 the fact that one suture needle was used.
14 Q. Indeed. It doesn't actually tell us how many sutures
15 were placed, does it? It tells us that one needle was
16 used?
17 A. Correct.
18 Q. So there is no reference, either in the operation record
19 or in this nursing record, as to how many sutures were
20 placed at the time of this procedure, which was
21 in February 1995?
22 A. Correct.
23 THE CHAIRMAN: Would you expect there to be?
24 A. No, because removal of a central venous catheter is
25 a short procedure and we would normally place one suture

1 in the skin only. Sometimes I don't place any sutures
2 at all anywhere.
3 MR BOYLE: In your evidence just a moment ago you talked
4 about -- and I think it was in relation to the operation
5 where the line was being removed -- about the
6 application perhaps of some pressure on a site; is that
7 right? Have I got that right?
8 A. That's correct.
9 Q. And you described perhaps there being a small hole in
10 the vein where the catheter had been; yes?
11 A. Correct.
12 Q. Now, the catheter and the Broviac line are
13 interchangeable terms --
14 A. Correct.
15 Q. -- here, aren't they? The catheter, or the Broviac line
16 here, it had been in the internal jugular vein, hadn't
17 it?
18 A. It had, via the common facial vein.
19 Q. Indeed, but it had travelled along that vein?
20 A. Correct.
21 Q. And under traction or with a little bit of pressure, it
22 needed to be removed from the internal jugular vein?
23 A. Correct.
24 Q. If applying pressure doesn't work in terms of stopping
25 perhaps some modest bleeding -- if applying pressure

1 doesn't work, might a surgeon place a suture to repair
2 the hole?
3 A. As a caveat I would have to say that I wasn't present in
4 the country when the central venous catheter was being
5 removed. If a suture would have to be placed to control
6 haemorrhage from the hole in the vein, that means that
7 the vein would have to be surgically exposed and that
8 vein would have to be then sutured. So the answer to
9 your question is yes, it is possible.
10 THE CHAIRMAN: Accepting that it is a possibility, how great
11 a possibility is it?
12 A. It is extremely unlikely. I have never seen it, I have
13 never heard of it.
14 MR BOYLE: And then finally if I may take you, please, to
15 your second witness statement which is 232/2 and at page
16 2, the very last paragraph at the bottom of the page.
17 You are here describing, I think, the mechanism by which
18 the presence of the catheter being in contact with the
19 wall of the vein for a period of time can cause
20 thrombosis, and then you say:
21 "... and hence obstruction of this vein."
22 Would that obstruction look like or feel like
23 fibrous tissue?
24 A. Are you asking me at the time of a post-mortem?
25 Q. Yes.

1 A. I can't answer that because I have no experience of
2 post-mortems.
3 Q. Very well. That'll teach me.
4 THE CHAIRMAN: Back full circle, I'm afraid.
5 MR BOYLE: If we take it back to a position where, for
6 example, you're going back in as a surgeon where there
7 has been a Broviac line in situ for a period of time and
8 you have noted thrombosis present, does it appear like
9 fibrous tissue in and around the vein?
10 A. It could appear as either. I have re-explored the necks
11 of children, looking for venous access, when it was
12 clear that there was thrombus or fibrous tissue, so
13 either scenario could occur.
14 MR BOYLE: Thank you very much. Sir, those are all my
15 questions.
16 Questions from MR McALINDEN
17 MR McALINDEN: Mr Chairman, I have one issue I would like to
18 raise at this stage.
19 The suggestion has been made or the proposition put
20 forward that if bleeding had occurred at the site of the
21 entry into the vein at the time when the line was being
22 removed on 9 February 1995, it may have required
23 a procedure whereby the skin was opened and a suture was
24 inserted in the vein at that time. Now, for that to
25 have occurred at the junction of the internal jugular

1 vein, would that have been a minor surgical procedure or
2 a more significant surgical procedure?
3 A. It would have been a very major surgical procedure.
4 Q. In relation to the note that was made by the surgeons
5 at the time, is there anything to indicate that such
6 a major surgical procedure took place?
7 A. Not at all with reference to the surgical note.
8 Q. And then in relation to the anaesthetic record, which is
9 at 057-077-141 to 146, is there anything to indicate the
10 length of time during which the patient was
11 anaesthetised?
12 A. Not on the image that's on my screen.
13 Q. If we move on to the next page then.
14 MS ANYADIKE-DANES: 143, perhaps.
15 THE CHAIRMAN: I think you're being steered towards
16 page 143.
17 MR McALINDEN: 143. Does that give any indication as to the
18 length of anaesthetic time?
19 A. Yes, it does. At the lower third of the page there are
20 a series of four Vs and below the Vs there are dots.
21 Each of those vertical lines represents five minutes, so
22 this would imply that the child was anaesthetised for 20
23 minutes.
24 THE CHAIRMAN: What does that tell you about the possibility
25 that the additional work was done, which is being

1 suggested?
2 A. No possibility.
3 MR McALINDEN: Thank you.
4 THE CHAIRMAN: Okay, thank you very much, Mr McCallion,
5 thank you for coming and for your time.
6 Ladies and gentlemen, that leaves us finished for
7 today. You have heard that we are not sitting on
8 Monday. Ms Ramsay's oral evidence is not required, so
9 I will take her written report along with the oral
10 evidence which has already been given and the written
11 statements which have been provided. We will resume on
12 Tuesday morning at 10 o'clock. Thank you very much.
13 (3.40 pm)
14 (The hearing adjourned until 10.00 am on Tuesday 15 May)
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