Thursday, 21 March 2013

(10.00 am)

(Delay in proceedings)

(10.10 am)

THE CHAIRMAN: Ms Anyadike-Danes?

MS ANYADIKE-DANES: Good morning. Could I please call Mr George Foster and Mr John Orr?

MR GEORGE FOSTER (called)

MR JOHN ORR (called)

Questions from MS ANYADIKE-DANES

THE CHAIRMAN: Thank you, gentlemen, please have a seat.

MS ANYADIKE-DANES: Thank you. Good morning. Can I check that you both have your CVs there?

MR FOSTER: Yes.

MR ORR: Yes.

MS ANYADIKE-DANES: If I start with you, Mr Foster. You have provided two reports to the inquiry. The first is dated 2 April and the second, your supplemental report after you received the witness statements, was dated 21 January of this year.

MR FOSTER: Yes.

Q. The series for those is 223. Subject to anything that you say now in your evidence, do you adopt that as your evidence?

MR FOSTER: I wonder if you could speak up, please.

Q. Subject to anything that you say now in your evidence, do you adopt those reports as your evidence?

MR FOSTER: I certainly do, thank you very much.

Q. Mr Orr, you have provided one report, which you were asked to provide by the DLS; is that correct?

MR ORR: That's correct.

Q. That report is dated 30 January 2013.

MR ORR: Yes.

Q. The reference for that is witness statement 320/1. Once again, subject to anything you say in your evidence today, do you adopt that as your evidence?

MR ORR: I do.

Q. Thank you very much. I'm going to ask you both a little about your background if I may.

Mr Foster's CV can be found at 317-007-001. Just so that you have it at the same time, Mr Orr's CV is towards the back of his report and that can be found at witness statement 320/1, page 18. Going to your report, Mr Foster, you qualified in 1968; is that correct?

MR FOSTER: Yes, that's correct.

Q. You became a fellow of the Royal College of Surgeons in 1974.

MR FOSTER: Yes.

Q. You are currently a consultant general surgeon in colorectal and paediatric surgery at the Countess of

Chester Hospital.

MR FOSTER: I retired from that post in 2011. Currently I work only at the Grosvenor Nuffield Hospital in Chester.

Q. That's a private hospital, is it?

MR FOSTER: Yes.

Q. Thank you. So are you still engaging in clinical work?

MR FOSTER: I'm still engaged in clinical practice.

Q. Thank you. I think if we go to 002 of your CV, the first page deals with your teaching and one can see there what you did by way of anatomy. If we go to 002 and look at your surgical training, you became a registrar at the Liverpool Royal Infirmary and also at the Alder Hey Children's Hospital, surgical registrar, and you had those posts from 1972 to 1974; is that correct?

MR FOSTER: That's right. This is all part of a surgical training rotation that took you through different specialties.

Q. Yes. And then in 1974 to 1976, you became a middle-grade, as you described it then, registrar at the Chester Royal Infirmary.

MR FOSTER: That's right.

Q. We won't go through it now, but you can see immediately under that section you describe the training as being

slightly different then than it is now.

MR FOSTER: Oh yes.

Q. More closely supervised and you benefited from more one-to-one teaching.

MR FOSTER: It was very much an apprenticeship system and you worked for one man and you did everything he did. It's in some ways a pity that that system no longer exists.

Q. Just after that, 1976 to 1983, that's when you became a lecturer in surgery at the University of Nottingham.

MR FOSTER: That's right.

Q. Then in 1983 to 2011, that is your practice as a general surgeon and as a consultant surgeon at that at the Chester hospitals?

MR FOSTER: That's right.

Q. You took over from your teacher, Mr Hardy; is that correct?

MR FOSTER: The man who taught me as a registrar, that's right.

Q. Yes. If we go on to 006 of your CV, we see your experience in paediatric surgery. And you say that you did a monthly elective and paediatric surgical list throughout your career with a specialist interest in paediatric surgery. I wonder if I can pause there.

You have an interest in paediatric surgery. Would

I be right in saying though that you have extensive interests as a general surgeon?
MR FOSTER: Yes. The paediatrics always came to Chester and I took that on when I arrived. Over the years, it changed as small babies were redirected, largely for anaesthetic reasons, to Alder Hey. So it became a much more generalist job in basic paediatric surgery. But there was a list a month, we were doing around eight cases a month.
Q. The reason I asked you that is because, in Altnagelvin, they didn't have specialist paediatric surgeons; they had general surgeons who were carrying out surgery on paediatric cases, if I can put it that way. So as we go through and you give your evidence on the issues I raise, I think it'd be very helpful if you were to tell me if you are now providing a view that is something that is within the domain of a paediatric surgeon and wouldn't be something really that a general surgeon might appreciate. That would be useful. In the main it would be quite helpful if you could keep to what, from your experience, a general surgeon would have been expected to recognise and undertake.
MR FOSTER: Yes.
Q. Then if we go on, we can see the administrative and management positions that you have held at 007. And we

see in particular, in 1990, you became clinical director of surgery at the Countess of Chester Hospital. And at the same time you were also a member of the management board. Can you just explain a little bit what that involved?
MR FOSTER: These were difficult times in 1990s, the Health Service grew following the White Paper and I was the first clinical director and, being the clinical director, you would have a seat on the management board.
Q. That went with the position?
MR FOSTER: Yes.
Q. What was your responsibility as you sat on the management board?
MR FOSTER: I represented the interests of the department of surgery and that was the greater department, that was orthopaedics, general surgery and all specialties, plastics and so on, in this new era of the purchaser-provider NHS.
Q. Not that we're going to deal with it to any great extent today, but did that have a governance role?
MR FOSTER: Oh yes, I would be responsible for organising the appointment of new doctors and the reasons for them and we were responsible for the quality of services provided by the hospital.
Q. And training?

MR FOSTER: And training, yes. There would be a college tutor, there was a college tutor as well. Chester had quite a strong interest -- always had a strong interest in surgical training.
Q. And if there were critical incidents, is that the sort of thing that you might have been alerted to and be expected to address?
MR FOSTER: Yes. Any problems would come to the clinical director because, in those days, the medical director was a very new appointment and that role was acquiring different responsibilities every year.
Q. Thank you. Then if we go over the page to 008, one sees that between 2004 and 2010, you're chairman of the Medical Staff Committee; can you briefly explain what that involved?
MR FOSTER: That's a switch from management to being an elected chairman of the whole consultant body. It didn't have a -- I had no management role within the Trust, so I was an independent member of the management committee or management board, but I represented the doctors' interests and concerns. And that would also have an essential governance role within it.
Q. Yes. Is it in that capacity that you're a member of the management board as we see in the line immediately under that?

MR FOSTER: Yes.
Q. Thank you. You have also very kindly attached to that, to this CV, a list of some of your publications. I take it there isn't anything that particularly bears, from a surgical point of view, on the aspects of this case?
MR FOSTER: There's a paper somewhere on appendicectomies, 1980, I think it was. It may be the next page. I lost a lot of my publications with computer crashes and things. But if we go to this next page, that would be 009, it might be there.
Q. Is it number 14?
MR FOSTER: Yes, that's the one.
Q. "Wound sepsis after appendicectomy"?
MR FOSTER: Yes, that was a large trial of the use of prophylactic antibiotics or antiseptics on modifying wound sepsis. That was a multi-centred trial. I was in Nottingham then, across all the Nottingham hospitals, it involved patients over 15 -- it was not children, but it involved patients over 15. That was published in The Lancet.
Q. I apologise, I see you have another paper at 19, which is to do with suturing after appendicectomies. It's on the next page, 010.
MR FOSTER: Oh yes, I'd forgotten about that one. That is when I was in Chester.

Q. Thank you.

Mr Orr, I wonder if I might now turn to you? You qualified in 1969; is that correct?

MR ORR: That's correct.

Q. And you became a fellow of the Royal College of Surgeons in 1975.

MR ORR: Again, that's correct.

Q. And a consultant paediatric surgeon at the Royal Hospital for Sick Children, Edinburgh, in 1984?

MR ORR: Correct.

Q. So in many respects the two of you are contemporaries.

MR ORR: Yes.

Q. I'm going to ask you the same question, or make the same point to you. Did you have general surgery training as opposed to paediatric surgery training?

MR ORR: Yes. Before I entered paediatric surgical training, I completed my general surgical training, so I am one of the few surgeons in the United Kingdom who has double training in both general surgery and in paediatric surgery. So as part of that training, I carried out some of my training in remote and rural hospitals and district general hospitals where we did a whole range of general surgery, including the surgery of childhood, so I'm well aware of some of the challenges that are involved in delivering these

services. I would also say at this point that I have been involved later in a number of committees looking at the delivery of children's services in Scotland and in the UK.

Q. Thank you very much. So you're able to speak not just as a specialist paediatric surgeon, but also from your experience as a general surgeon and are able to assist us in what might be expected of a general surgeon in Altnagelvin, albeit handling some paediatric cases?

MR ORR: That is correct. I have approached my report from the point of view of a general surgeon in a district general hospital.

Q. Thank you very much. If we pull up your CV at witness statement 320/1, page 18. We see that you started as a consultant surgeon in the Royal Hospital for Sick Children, Edinburgh, in 1984 and you continued on until 2009.

MR ORR: That's correct.

Q. And although you no longer practice from a clinician's point of view, you are still involved in medical issues?

MR ORR: Yes, I retired from clinical work in 2009, but I continue with a medicolegal practice.

Q. Thank you. Then if we look down at your organisations and wider responsibilities, you also have been a clinical director. You were a clinical director of

surgical services at the Western General Hospital. Can you help us with roughly when that was?

MR ORR: That would be approximately 15 years ago. That's a post I held for three years, managing a number of services, including general surgery, colorectal surgery, neurosurgery, and breast surgery. I then moved from that post to the Royal Hospital for Sick Children since there was a rationalisation of children's services in Edinburgh, and I became the medical director at the Royal Hospital for Sick Children in Edinburgh.

Q. And you also became the associate medical director of the Lothian University Hospital Trust.

MR ORR: Yes, there was then another reorganisation of Health Services and I then became an associate medical director with a portfolio of -- mainly dealing with performance issues, although I was obviously responsible for a different group of services which had included obstetrics, medical paediatrics, ENT, ophthalmology, and I think that covered it. My portfolio mainly was assisting the medical director with performance issues, governance issues, things like that.

Q. And so for those three posts, do I take it that all three posts took you into issues to do with governance matters?

MR ORR: Yes.

Q. Therefore, the issues that arise out of critical incidents, would that be something you would have been familiar with?

MR ORR: Yes, I was.

Q. Thank you. Thank you very much.

If I turn now to some of the issues that have arisen in the course of the clinical aspects of Raychel's case. The first I would like to ask both of you about really is the administration of the IV Cyclimorph. You're probably aware that there has been quite a bit of evidence as to whether it should have been administered. There has been quite some evidence, which has set up a comparison between administering no analgesia and administering that as the particular form of analgesia. Am I right in saying that neither of you are advocating not administering any analgesia at all to Raychel, the issue is what form of analgesia is to be administered? Would that be a fair way of putting it? Mr Orr?

MR ORR: Yes. You can administer analgesia, but I think the important thing is that if you're going to administer analgesia, the surgical staff who are going to be managing the patient should see the patient before analgesia is administered, for the reasons that I have recorded in my report, that it may well mask symptoms and make diagnosis and management difficult. I don't

know if you want me to comment about some of the other evidence that's been introduced or whether that's something we do later.

Q. Yes, I do, but not overly so, but yes because there are some who have a slightly different view. If I can just pull up the bit of your report which deals with this just so that we have it there and perhaps that's a useful starting place. It's witness statement 320/1, page 4.

I think you can see it there under your comment, 1.3, the first paragraph:

"It was poor practice to prescribe an opioid intravenous analgesic before the patient was reviewed by the surgical team. This has the potential effect of masking surgical signs and sedating the patient."

And one of the issues I wonder if you could help us with is because Mr Foster has suggested you could administer some pain relief. His view is that one should not rush to administer something as significant as IV Cyclimorph before having some sort of discussion with either the surgical team or the surgical team having had an opportunity to examine the child. So it's not no pain relief, it's just the form of it. I wonder if you can help us with your views on that.

MR ORR: Well, intravenous opioids are an extremely strong

analgesic and, as I've said there, they are likely to mask significant signs that the surgeon may wish to elicit. We are talking about 2001 and I would suggest that for the majority of surgeons in 2001, they would not wish that type of analgesic to be administered before they had an opportunity to take a history and examine the patient. I'm aware that evidence has been presented that that view may be changing, but it's changing with time and it's recent experience that is now indicating, as we run into 2013, that it may be possible to give intravenous analgesic of this type, but in 2001 for the majority of surgeons in the UK they would wish to examine the patient before an opioid analgesic had been given.

Q. Yes. The evidence that you might be referring to is Dr Kelly, who was on duty at A&E. He referred in his evidence to a text which was his reference work, if I can put it that way, which is the Oxford Handbook of A&E Medicine, and we see it at witness statement 254/1, page 11, very briefly.

I wonder if we could enhance that a little bit? If one sees on the left-hand side:

"Has the patient had appropriate treatment pending inpatient team's arrival?"

And there you see it very clearly:

"The most common error here is to forget or delay the administration of analgesia. Every patient in pain must have that pain appropriately treated as soon as possible. A patient does not have to 'earn' analgesia and there is no situation in which analgesia should be delayed to allow further examination or investigation. Concern regarding masking of signs or symptoms, for example in a patient with an acute abdomen, is not only inhumane but incorrect."

So that's part of the rationale that Dr Kelly used to administer the IV Cyclimorph to Raychel to relieve her pain.

Mr Foster, I wonder if I can come to you. Your view, as I understand it, is that the key term there is to have that pain appropriately treated. So as I understand your evidence, it's not that she shouldn't have had any pain relief at all, the question is what form and was the IV Cyclimorph the appropriate form? I wonder if you can briefly help us with that.

MR FOSTER: I think it's got to be proportionate to the fact that children get abdominal pain frequently and it's been shown in the public domain that for children under 15, one in 3 will at some point or other have seen a doctor with abdominal pain. And that doctor may not necessarily be in Accident & Emergency, it would

probably be more likely to be the general practitioner. And the use of intravenous opiates is not on the general practitioner's radar and they would use, at the very most, something simple like paracetamol. That's the starting point.

For children with abdominal pain -- and again, it's a well-known statistic -- 90 per cent have something functional, it's not an organic condition; only 10 per cent have something like that. So when Raychel arrived at the Accident & Emergency department with her parents as an ambulant patient, she was in many ways analogous to a child attending a GP. Dr Kelly was a trainee GP, doing a period of time in A&E, and to examine a little girl quite quickly, because Raychel was triaged in at 20.05, and by 20.20 had had 2 milligrams of intravenous opiate.

I believe examining children is not easy, they are anxious and it is very easy for inexperienced junior doctors to think of the first thing they think of in relation to abdominal pain, and that is appendicitis, but most abdominal pains aren't.

So I think to give an intravenous shot of a powerful analgesic like that, which does have side effects, without, as we know it, contacting -- or at least, if he contacted Mr Makar, he's only spoken to him. To give

that before Raychel was seen by somebody experienced, and ideally by somebody who would be responsible for subsequent surgical decisions was over the top.

THE CHAIRMAN: So you can act humanely without giving Cyclimorph? Dr Kelly was relying on this to show that -- it's the line about six or seven lines down:

"It is not only inhumane, but incorrect."

The text that Dr Kelly relied on refers to:

"It is not only inhumane, but incorrect."

And I think the point you're both making is that giving Cyclimorph was incorrect, but it would be perfectly humane and appropriate to have treated Raychel at that point by giving a much milder or gentler painkiller so that any examination of her which followed a short time later may not have been disrupted; is that fair?

MR FOSTER: Yes. I mean, this is basic medical fact. It's standard treatment, standard practice. I believe to give something simple like paracetamol syrup, 10cc at the most, that's not going to affect any subsequent anaesthetic implication. If you're going to do that, then that is part of your clinical activity in assessing the case globally to see the effect of that simple analgesic on the patient's symptoms, which they have attended the hospital with.

MS ANYADIKE-DANES: Can I ask you both this finally? Dr Scott-Jupp who is the consultant paediatrician who's been retained by the inquiry was asked a similar question, and in his evidence yesterday he thought that the IV Cyclimorph was stronger than it needed to be in terms of addressing Raychel's pain. He also made the point that analgesia can be used as a diagnostic tool. Is that what you meant, Mr Orr, by saying you give something milder and see what happens?

MR ORR: Yes, I think so. You're giving it, if you wish to give it, to allay anxiety and help symptoms; you're giving it to see what will happen.

Q. Mr Foster, would you have a similar view, that you can use it diagnostically, if I can put it that way?

MR FOSTER: That will be part of the reason for using it. The reason for using it at all is if you thought her pain, the little girl's pain, was significant. I don't know how a junior Accident & Emergency doctor would reach that conclusion. And I'm uncertain as to why, in an Accident & Emergency department that takes all comers, he didn't speak to a senior colleague before organising that medication.

Q. Yes. Mr Orr, I wonder, would you like to comment on that?

MR ORR: I wouldn't use paracetamol diagnostically. I would

use it for pain relief.

Q. If it had the effect of fairly speedily addressing the pain -- we're going to go on to talk about something else which you advocate, which is, "Let's have a period of observation", if you like -- would that be part of your view as to whether it was appropriate to move at that stage towards surgery if the pain could be adequately addressed by a reasonably mild analgesia?

MR ORR: I would not normally use response to paracetamol as part of my diagnostic criteria in moving towards surgery.

Q. Okay. I would like to move on now to the decision to perform the appendicectomy at all and then, if you are going to do it, or at least you think you might do it, when you would be forming that view, if I can put it that way.

If I start, Mr Foster, with you. You said that there were a number of possible diagnoses, as I understand you, in your report, your first report. And in addition to an appendicectomy, there could have been urinary tract infection, there might have been that, and we'll come to that in a minute. There might have been some sort of general non-specific abdominal pain --

MR FOSTER: Yes.

Q. -- and she might have been constipated. Those are the contenders, are they, for her symptoms as she presented at A&E?

MR FOSTER: They would be my main contenders. We perhaps should put constipation into the package of functional pain, perhaps the whole length of the gastrointestinal tract. This little girl had walked in only three and a bit hours after having her dinner and all the observations done on her arrival were normal.

In addition, when she'd seen the surgeon, the blood results would then have been available, indeed they weren't available from my understanding when the Cyclimorph was given. The blood tests were also all normal. By this time, the Cyclimorph had been given and Raychel was a lot better.

Q. So from your point of view, does that suggest that waiting might have been appropriate?

MR FOSTER: Absolutely. There's, again, quite a lot of information in the literature as to the timeline of symptoms to pathology in appendicitis. The best available would suggest something like a 30-hour, 24 to 30-hour delay to acute appendicitis, and something like 40 to 60 hours from the onset of symptoms until a perforated appendicitis. This was only 3-and-a-bit hours down the line with normal investigations, with

normal observations. This was an acute district general hospital with a paediatric ward and the facilities for acute observation of Raychel, repeated examinations by ideally the same clinician who made the original diagnosis, a repeat of blood tests after a suitable time and a repeat of urine tests as well. So the scenario was a perfect one for admitting a little girl to hospital for acute observation of her symptoms. That's what hospitals are for and tests can be repeated as necessary, even the next morning one could escalate them, and in 2001 it was permissible to do an ultrasound or something of that sort, particularly with the possibility of a renal problem coming into play also. These days, it's more common to do CT scans and things like that, but they were not so much in the frame in 2001.

Q. Yes, thank you. We'll come back to some of the detail of that. There was something that I think you had pointed out, which I'm afraid I omitted to draw out and it's just to draw out that issue of pain.

Mr Gilliland had produced a third statement for the inquiry and, as part of that statement, he attached a 2005 paper titled "Early analgesia for children with acute abdominal pain", and the starting point of it is witness statement 044/3, page 9. You don't need to pull

that part up, but if you will pull up page 10.

What I think you wanted to draw out is, if you see that section called "Methods", then the penultimate paragraph before that, just after halfway down:

"Current practice in paediatric emergency medicine and paediatric surgery dictates that children should not receive analgesics when presenting with acute abdominal pain. This practice amongst children is a result of traditional teaching and only recently [this being 2005] has been challenged in a manner similar to that for adults."

I think you wanted to identify that as a section in a paper that Mr Gilliland had provided to us, which seemed to suggest that the current practice, even in 2005, in relation to paediatrics, was not quite what appears to have happened at Altnagelvin. But maybe you can just comment briefly on that.

MR FOSTER: That's right. This paper's starting with a standard introduction to justify the purpose of writing the paper and that's in 2005, and they're making it quite clear that, historically, the clinical practice was of not administering analgesia until the patient, child or adult -- in this case this paper came from a paediatric hospital in Canada, a specialist hospital. The children had not been examined by a junior doctor in

Accident & Emergency before the decision to give the analgesic was made; they were examined by a paediatric emergency physician. So it was at a different level, but even a hospital operating at that level, which I'm sure would have had access in 2005 to CTs and so on, it's pointing out quite clearly that their current practice needed modification maybe as a result of the trial that they were going to perform.

Q. Yes. And that modification maybe is to be found in the top three lines under "conclusions":

"Our data show that morphine effectively reduces the intensity of pain amongst children with acute abdominal pain and morphine does not seem to impede the diagnosis of appendicitis."

But the point that you were making is that it took trials like that to change what was the practice?

MR FOSTER: Yes, that was their purpose, and that's the sort of publication that, quite rightly, should be coming out of a hospital of that nature.

Q. Just as we leave it, it may just have been that Dr Kelly was ahead of his time.

MR FOSTER: Well, I can scarcely see his academic credentials to be so. He was a junior doctor in -- the bolster(?) junior doctor in Accident & Emergency and I think he was over the top rather than ahead of the

team [sic].

Q. Mr Orr, if I turn to you. We don't need to pull it up, but in your report you also advocate the benefits of active -- I think you refer to active observation. So purposeful observation, if I can put it that way.

MR ORR: Yes.

Q. Is that what you think would have been appropriate practice in 2001 in relation to a child like Raychel?

MR ORR: Yes, I would. The principles of active observation have been recognised since the mid-1970s. And most surgeons dealing with children with abdominal pain would pursue that type of policy. There is no urgency in taking a patient to theatre unless there are very clear criteria that this child has a major intra-abdominal problem, and that was not the case here for all the reasons that Mr Foster has just stated and I will reiterate them.

I would suggest that for the great majority of surgeons in the United Kingdom, they would pursue a policy of actively observing a child like Raychel with abdominal pain, initially overnight, and thereafter a review in the morning with a decision whether further investigation is required.

Q. The concern that Mr Makar had -- and he has been supported in that concern by others, Mr Gilliland who is

the consultant, but also to some extent I think also Dr Scott-Jupp, the paediatrician expert for the inquiry -- was that if she did have appendicitis, which is a difficult thing, as we have been led to believe, to accurately diagnose amongst children, and if you waited and that did continue to develop, the risks of peritonitis were so great that outweighed, if I can put it that way, the risks of carrying out possibly early an appendicectomy or maybe even an appendicectomy which ultimately will prove to be unnecessary. Can you help us with that?

MR ORR: I would suggest that that is a rather historic view. It was the view at the time that I commenced my surgical training. The view was that you should act urgently to prevent the scenario that you have just outlined. But over the last 25 to 30 years, there has been a change to keeping a very close eye on the patient, doing the necessary investigations, and if you do that, the risks of that patient suddenly perforating their appendix and developing peritonitis are extremely small. I would hesitate to say that it never happens, but the risk is infinitesimally small that that scenario would occur.

Q. Mr Orr, is that because it just takes time for that kind of development to occur and there are signs as it's

occurring, which is presumably what you're looking out for? Is that why the risks are low and favour observation?

MR ORR: Yes. If you're observing the patient, for example, you'll see if there's a progression in the severity of the appendicitis. It is likely that pulse rate will go up, temperature will go up, the patient will develop more severe pain in the appropriate area, repeat blood investigations would show that the white cell count starts to elevate. So there would be signs of progression in the clinical condition.

Q. Thank you. In terms of timeline, I think Mr Foster's view is: it's not like a balloon that you just burst, these things don't just erupt in that way, there is a period over which they gradually intensify, the situation becomes worse and that is a time in which those symptoms are developing and you're watching them, but it's not something that, if you don't do it now in the next couple of hours, it'll be a disaster?

MR ORR: That's correct. Some patients may progress more rapidly than others, but if they're being properly managed and observed, that will be identified by the attending staff.

Q. And just so we have it, do you regard there as being risks in managing and observing because, if you miss

those signs, then the consequences of that might be quite serious for a child or are the signs sufficiently clear that the chances of an experienced paediatric nurse or nurse working on a paediatric ward missing a series of signs like that are really quite low?

MR ORR: Active observation involves not just the nursing staff, but the surgical staff. It is an intensive process. It involves perhaps two to three-hour observations by clinical staff. So that means that you are observing that patient overnight. It's not a matter of, at 11 o'clock, saying that's fine until the morning. Depending on the patient's condition, you may well have to re-examine that patient at 3 o'clock, 4 o'clock in the morning. It is what it says: it is an active process.

Q. Does that not make it rather resource intensive?

MR ORR: It is resource intensive, but that is what is required.

Q. Apart from what happened with Raychel, are there risks incidental to carrying out an appendicectomy which proves to be unnecessary once you examine the appendix?

MR ORR: Sorry, are there risks?

Q. What are the risks? One might say why engage the resources, why take any risks that any of these signs are missed, why not simply, when you suspect an

appendicitis, simply remove the appendix?

MR ORR: Because you're then subjecting a patient to an unnecessary operation and any operation will carry a risk with it. For example, there is a risk of wound infection, which could progress to a more severe form of sepsis when you remove even a normal appendix. Now, it shouldn't happen, but it can occur. So I would not support an argument for returning to an era where you remove the appendix because you thought that there might be a risk of appendicitis.

Q. I understand. I'm just going to move on a little bit. There has been a difference in views as to the signs indicating appendicitis. Mainly that difference is expressed between responses from Mr Gilliland to Mr Foster's report. It's to do with the site of the pain and whether there was appropriate tenderness, guarding and rebound, whether the pain was noted to increase in intensity, the significance of the fact that the injection improved matters almost entirely within a relatively short period of time, and also the dysuria that was noted, the pain on urination. And maybe even also the protein that was noted in the urine. All of those things.

Mr Foster, I think, your view was you probably should wait and observe this child anyway. But while

you were doing that, you might be reflecting on some of these things and trying to see if there was an alternative or a differential diagnosis. Would that be a fair way of characterising your view?

MR FOSTER: Yes, absolutely, and that's why the little girl was going to be coming into hospital. It's not just to do urgent surgery based on the diagnosis of -- however experienced they might have been theoretically -- the junior doctors at SHO level in the absence of positive factors: blood tests, abnormal vital sign recording, improvement in her pain, and then side issues such as the proteinuria. Absolutely, as you say, that might suggest an alternative diagnosis. You wait until the light of day, reassess the patient, organise tests as necessary, and the easiest thing in the world to organise in a paediatric unit is to ask the paediatricians to see the patient also and give you their opinion.

Q. As you introduce the paediatricians there, the evidence that we've had is that although this was a paediatric ward, in large part the surgeons looked after their patients and the paediatricians looked after the non-surgical patients, if I can put it that way. But when you say, "Ask the paediatricians", does that mean that you would advocate perhaps a more collaborative

working between the surgeons and the paediatricians?

MR FOSTER: I certainly do, and that has been my experience ever since I worked in Nottingham, and throughout -- as long as anyone can remember in Chester, the paediatricians took the role of being in overall charge of the children in the children's ward. One should remember that the majority of them would be the paediatric medical patients and there would only be one or two surgical patients. I am well aware that on their rounds -- and the paediatricians would do more than one ward round a day, they would do two and sometimes three -- they would stop at every bed. And if they saw a surgical patient performing badly, a surgical patient becoming ill, saw a surgical patient not behaving as expected, they would take over control and do something about it.

Q. That has been your experience?

MR FOSTER: Yes, definitely.

Q. I wonder if I can ask Mr Orr about that. You presumably have also worked on, if I can call it this way, mixed wards where there have been both general medical paediatric and also surgical paediatric patients. Do you have any experience of there being that kind of collaborative working?

MR ORR: In fact, it's one of the recommendations that has

come out of working parties over the last 15 years on addressing the challenge of managing children's surgical services in smaller district general hospitals. It has been recommended that there should be close co-operation between the surgical staff and the paediatric staff.

And as has been described in many units, it is the paediatricians who in fact carry out the general management, the general care of the child in the ward; the surgeons would focus on the surgical aspects. So these are issues which have been developed over the last 10 to 15 years and there will be variation across the country as to how that has been implemented.

In 2001 it is still possible that there were units where the surgeons managed their patients in the paediatric ward, but they would have to be managed appropriately.

Q. Yes. And when you say that there was perhaps, in certain areas, a gradual realisation that perhaps in those sorts of settings where you maybe don't have specialist paediatric surgeons, that the paediatricians perhaps should address the children, all the children, is that a recognition of the fact that the surgeons are not specialists in paediatric cases? Although they may be perfectly specialist at that particular surgical technique that they are carrying out, in terms of the

patient, they may not be so aware of the patient as a child than the paediatricians would be?

MR ORR: It's a recognition that the surgical team from the houseman, now the foundation doctor, up to the consultant, if they are general surgeons, will not have the depth of experience of dealing with children and dealing with issues such as fluid balance, pain relief, drug dosages. So that is why the paediatricians in many units have taken on the more general management of these patients, obviously working with the surgeons, who have to make the decisions about the surgical care of that child.

Q. And if you're going to do that, I presume communication then becomes very important.

MR ORR: Absolutely.

Q. Just to ask you, Mr Foster, to deal with some of the particular things that Mr Gilliland raised. He said in relation to the white cell count, for example, he said it can be raised in case of appendicitis, but not exclusively, and in fact it wasn't raised at that stage in Raychel, but the fact that it wasn't raised doesn't necessarily mean that she couldn't have appendicitis. If we pause with that, would you accept that?

MR FOSTER: Yes. I'm not sure about that, to be honest. In this modern age when we repeatedly examine patients and

we can do blood tests as frequently as we wish, I think it is quite uncommon for the white cell count to be entirely normal in the absence of the signs of appendicitis. If the white cell count is normal, then you would probably find other abnormalities such as a raised heart rate and increasing tenderness and so on. I think too much can be made of the white cell count in appendicitis; it almost always goes up in my experience and goes up almost in proportion to the severity of the disease.

Q. So your view is that you don't look at these things in isolation?

MR FOSTER: No.

Q. I presume the point of doing the range of tests is you look at the results of all of them and to see collectively what that tells you in your experience about the patient's likely condition.

So then, when you say "in the absence of other abnormalities", Mr Gilliland goes on to say that a normal temperature can be a common finding in children with acute appendicitis. Is your point: well, yes, but if you're stacking up all the tests that appear to be normal then maybe you need to either wait or think again about your diagnosis?

MR FOSTER: I think to say "a common finding" is not correct

at all. You're looking at a score sheet here, which has blood tests on it, it has vital sign recordings and it has clinical observations, and if you like it also has investigations such as ultrasound. And all those things come together in a jigsaw to make the diagnosis of appendicitis. As you very clearly say, you do not look at one test on its own.

Q. Yes. And do you have a similar response to his comment that a significant number of children with appendicitis do have abnormalities on urinalysis and dysuria can occur in children with appendicitis and the fact that it's there doesn't necessarily mean that something else is, if I can put it that way, going on?

MR FOSTER: Oh, I accept what he says, but nevertheless along all the other things in the boxes, the proteinuria was an abnormality. It is not normally seen in children's urine, it's only around 10 per cent, I understand. Amongst the recordings made from Raychel, that included blood tests and examination findings and blood tests, the only abnormality that came out of all that lot were two urinalyses that showed protein that needed at some point to be taken further. I accept that in 2001 -- I would like to point out, rather, that in 2001 stick testing of urine for nitrite, which organisms can make, or for esterase which neutrophils can make,

was quite in its infancy and there was a degree of suspicion about the sensitivity and accuracy of that form of stick testing. Back in 2001, 12 years ago, we were still sending urine samples to the lab for microscopy, and I accept to wait for cultures to come back is probably not right, but to at least send them, send them for microscopy, and at that time we certainly still did that. All the proteinuria means to me is that this is another tick in the box of something unusual and it merited looking at Raychel a little more attentively. And ideally, I think the next morning, amongst repeating blood investigations, she should then have had her urine tests dipsticked again and a referral made to the paediatricians across the corridor about any comments they would wish to make regarding the proteinuria in a little girl. I would personally probably order an ultrasound scan as well.

Q. Then if I ask you both, we know that the wait-and-see approach is not one that was applied in relation to Raychel. And what happened instead is that Mr Makar went back to the ward to change over the fluid, the IV fluid prescription he had made. He had originally thought or at least wanted her to have Hartmann's and was told that ward policy was Solution No. 18. So he went back to the ward to do that. It doesn't seem that

he examined Raychel at that point. Her family's view was that her pain had receded almost entirely and there's reference to that in the charts at that stage. And it seems that the next time that Mr Makar saw Raychel was when he was bleeped to theatre. He deals with it in his transcript of 6 February at page 125. He says that she was already anaesthetised by the time he saw her in the theatre.

He had accepted, when I was asking him questions, that just because you have got a view that a child is going to have an appendicectomy does not mean that if the situation changes that you are not prepared to respond to those changes and if it means you don't pursue the surgery, well, then you don't, and he said he had an open mind about that. And if he had been told her symptoms had been relieved, he might have thought, "Perhaps we'll wait and see what happens". So that was the evidence he gave.

I wonder if you can comment, though, about how all that could have worked if the next time he really has an opportunity to see Raychel, she is already in theatre and anaesthetised. Maybe, Mr Orr, you can help with us that.

MR ORR: Well, if the next time he sees the patient she's anaesthetised, ready to go to theatre, he's going to go

to theatre. He had an opportunity to examine Raychel again when he went back to the ward. And if the symptoms had improved, if the signs had modified, bearing in mind that she's already had morphine, he might have been in a position to say, "Okay, we'll hold off and we'll review the situation later on in the morning". There was an opportunity.

Q. Do you think he should have examined her again then?

MR ORR: Yes.

Q. And do you think that the arrangements should have been such that, absent that opportunity, that in fact she was already anaesthetised by the time he got to theatre, or would that be perfectly standard in your experience?

MR ORR: Well, as I understand it, the timing, potential timing of surgery was moved forward. There was an earlier decision perhaps to operate the next morning, as I understand it, in some discussion with a more senior colleague. But theatre became available and therefore they made the decision to take Raychel to theatre and carry out the appendicectomy late in the evening.

Q. So it's not so much that there was a procedure where that would happen, in fact, just fortuitously or not, as the case may be, he was in that position because a slot became available?

MR ORR: That's what it would appear to indicate, yes.

Q. I don't know if you can help with us this. Is it --

MR STITT: Sorry. I was looking for the right moment to interject and this may be it. Three questions ago Ms Anyadike-Danes asked about the urine, the proteinuria, the plus plus, and she formulated a question to Mr Foster, who answered it and part of his answer was really new to this inquiry, namely that a dipstick was in its infancy and he really didn't put much reliance on it. I expected the same question to be put or to seek a response from Mr Orr. The fact that it wasn't is not a criticism, but it's why I didn't interject at that time. And then Ms Anyadike-Danes moved on to another point. May I, sir --

THE CHAIRMAN: Do you want us to go back to Mr Orr?

MR STITT: If I may. The relevant point I'd like to make, if I may, is this: the relevant extract is page 34 and 35 [draft] and I would like not only to Mr Orr to have the opportunity to comment on dipstick, but also I would be grateful if a reference could be made to the Gilliland number 3 statement, which has been elevated to the status of a professional report, an expert report, at the bottom of paragraph -- I don't have the inquiry ... It's 044. If I may just ask this to be called up, 044/3.

THE CHAIRMAN: It's a witness statement.

MR STITT: WS044/3. On my copy, it's essentially the second page, so it may be 002 if we could check that. Yes. If (iii) at the bottom could be magnified. And perhaps, if to Mr Foster, the reference to the NICE guidelines -- I'll read the sentence:

"The NICE guidelines on urinary tract infection in children state that, for children aged 3 years or older, dipstick testing for leukocyte, esterase and nitrite is diagnostically as useful as microscopy and culture and can be safely used."

I wonder could that be put in conjunction with the question to Mr Orr.

THE CHAIRMAN: Thank you.

MR FOSTER: I think the NICE guidelines were published in 2007.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: These particular ones.

MR FOSTER: Yes.

Q. I think if we go to page 3, we can see that. It says:

"The NICE clinical guideline 54, August 2007, page 13."

Right up at the top.

THE CHAIRMAN: Okay. That's one issue. You have a more general issue which you'd like Mr Orr to be asked about, about the extent of reliance on the dipstick test

results in 2001.

MR STITT: Yes, because we know the evidence of Mr Scott-Jupp, consultant paediatrician, and the Gilliland view, and of course we know that Mr Foster is advocating redoing the dipstick the next morning and then sending off for a test, but not holding anything up should there be any intervention needed.

THE CHAIRMAN: Mr Orr, we've got your general point, which is that there should be active observation, there should have been active observation of Raychel. To the extent that one of the triggers for moving forward was the result of the dipstick testing, what would your view be of the reliance which would be placed on that in 2001 when Raychel was admitted?

MR ORR: In 2001, if there was a dipstick showing proteinuria, some protein in the urine, I would say that's a marker that we have to explore. I wouldn't immediately say this child has a urinary tract infection. I would request that urine was sent off for the lab for microscopy and thereafter culture and we know that culture will take two or three days. So that is something that's in progress. The urine microscopy is looking for leukocytes, that's white cells, in the urine, and again that would raise a concern and it might point you to think about another

diagnosis. But you would come back to an overall assessment of the patient in terms of arriving at a diagnosis of appendicitis. I think it's important to emphasise that diagnosing appendicitis is not easy. You have to look at a whole lot of factors in the history, in the examination, in the various investigations that you're going to carry out. So it's not an easy diagnosis to make and you have to take all these factors into account before you arrive at that definitive diagnosis of acute appendicitis.

MS ANYADIKE-DANES: In fairness to you, Mr Orr, you do say in your report at 320/1, page 4, that:

"The urinalysis revealed 1 plus of protein [that was the one that you had seen in the records], which with the history of urinary symptoms [and by that I think you meant pain on urination] should have prompted a request for an urgent urinalysis, ie microscopy and culture."

That was a view you expressed then in your report.

MR ORR: Yes.

Q. Irrespective of what the dipstick produced, you would want to send a urine sample to the lab?

MR ORR: Yes.

MR STITT: A final very brief point on this. Could Mr Orr be asked: is he aware of page 30 in the Altnagelvin notes, which is the dipstick results, urine results,

received after 11 o'clock that evening? It's 020-015-030.

THE CHAIRMAN: This is the second test, we understand, isn't it?

MS ANYADIKE-DANES: Yes.

Mr Orr, four up from the bottom, you can see "protein, 2 plus".

MR ORR: I presume that's the time at 23.19.

Q. Yes.

MR ORR: What I didn't see on that was a date. But I see that there's two plus of protein, so I assume that that was a second test done later on that evening.

MR STITT: That's what we understand and I was referring to the nitrite, the leukocytes at the bottom.

MR ORR: So these, yes, are negative, but again I would still suggest that her urine should go for microscopy. Again, this is something you would note, but I accept that these are negative reports for the leukocyte -- I presume that is the LEU -- and the nitrite and the blood.

MS ANYADIKE-DANES: Yes. From the evidence both of you have given, you seem to have placed some emphasis on trying to find out why she did have protein in her urine. Does that mean you don't regard that as being an entirely standard result?

MR ORR: I think, as has been said, it is not normal to have protein in the urine, so you would want to exclude the possibility of a urinary tract infection.

Q. So even if you received this result, which showed negative for nitrites and leukocytes, which might have been suggesting towards a urinary tract infection, you would still want to know, as I understand what you're saying, why did she have protein in her urine?

MR ORR: Yes.

Q. Is it significant, or is this test not sufficiently sensitive to distinguish, that it goes from 1 to 2?

MR ORR: I can't make a definite comment on that. It is probably within the range, the accepted range 1 plus, 2 plus. It would require the individual or the group who are doing this test to explain what their parameters are.

Q. I understand. Mr Foster, do you have a view as to whether you regarded that as significant?

MR FOSTER: I don't know enough about nephrology to make a comment. But there are two consecutive tests which are showing protein. A third would be even more informative the following day, and that would then, I'm quite sure, trigger the requirement for a 24-hour urine sample to be taken. That would be normal practice to look at the total protein and a referral to a medical

expert.

Q. Just as we leave this, my learned friend Mr Stitt was correct that Dr Scott-Jupp expressed his view in evidence that the proteinuria in isolation, that is without the presence of leukocytes or nitrites, meant that a urinary tract infection was very unlikely. In fact, I think he regarded proteinuria as a very poor test for urinary tract infection, but he wasn't able, I think to, express a view as to why the protein was there in the first place, if I can put it that way.

Just so that we have it, some of the other clinicians that were involved in Raychel's care have also regarded the absence of leukocytes and nitrites as indicating that there may not have been a urinary tract infection, one of whom is Mr Bhalla, who was the registrar. We don't need to pull it up, but he says that in his evidence on 14 March on page 40 at line 23.

Dr Scott-Jupp and some of the clinicians are also not sure that the fact that she experienced pain on urination necessarily points you towards a urinary tract infection. We don't need to pull that up, but Dr Scott-Jupp says it in his report at 222-004-003. And Mr Gilliland says similar. So the urine issue, if I can put it that way, Dr Kelly had noticed and it's also in the observations that Raychel had experienced pain on

urination. There are two results with protein in the urine and there is an absence of nitrites and leukocytes. So that's what the urine tells you, if you like. Do I understand you to say that leaving aside all the rest of it, that protein result requires some further thought and study? Would that be a fair way of categorising it?

MR ORR: I think that would be. We don't know whether she had a urinary tract infection or not. All this is is a marker for further investigation.

THE CHAIRMAN: But even if you don't know whether she's got -- even if you're working on the assumption that she doesn't have a urinary tract infection, it's still premature to go for an appendicectomy?

MR ORR: I would say it's premature to go for an appendicectomy given the findings that that decision was based on.

THE CHAIRMAN: Yes, thank you.

MS ANYADIKE-DANES: I wonder if I can move you on to a different issue entirely, which is to do with the involvement of the consultant in the surgery or the decision in relation to surgery? That stems out of the NCEPOD report of 1989. That report, which one finds at the back of one of your reports, Mr Foster -- the start of it is 223-002-052, but the particular part I would

like to take you to is 223-002-054.

Before I ask you any questions about that: Mr Orr, you weren't asked to address the 1989 NCEPOD report, but are you aware of its findings and recommendations?

MR ORR: I am.

Q. Thank you. There are two recommendations in it that have been the subject of some discussion. One is a more governance question and it's something I think, Mr Orr, that you have touched on, which is the third bullet:

"Surgeons and anaesthetists should not undertake occasional paediatric practice. The outcome of surgery and anaesthesia in children is related to the experience of the clinicians involved."

And I think that goes to something you were saying earlier. But the bullet that the witnesses spent some time addressing is the final one:

"Consultant supervision of trainees needs to be kept under scrutiny. No trainee should undertake any anaesthetic or surgical operation on a child of any age without consultation with their consultant."

And if I turn to you first, Mr Orr, I take it you were aware of that recommendation?

MR ORR: I was and am. I mean, this report, that NCEPOD report was a wake-up call to the surgical and anaesthetic professions in regard to the management of

children. So I would suggest that surgeons and anaesthetists in the UK should have been well aware of these recommendations.

Q. You mean because when it came out -- perhaps "revolutionary" is not quite the right word, but it was such a change from previous practice, that is something you would have thought surgeons and anaesthetists would have been alert to?

MR ORR: It received significant publicity and circulation within the professions. It also triggered reviews of services in order that units could try and comply with these recommendations. And that's the challenge that I referred to earlier, of delivering children's services in smaller centres.

Q. Is that something that in your various positions in the hospitals that you've been in, is that something you've had direct experience of, the attempt to try and see how these recommendations might be met?

MR ORR: Yes. And I think it's fair to say that people have tried very hard to meet the recommendations, but it is certainly not easy and you have to balance the ability to deliver a local service to a community against the potential of removing that service and parents and children having to travel quite large distances to receive the same service in a larger centre. So it's

complex.

Q. Are you speaking there primarily in relation to the third bullet and the notion that one might perhaps centralise -- more centralise specialist care?

MR ORR: Yes, and that is an argument, that's a debate that has been addressed around the UK and Ireland.

Q. If we go to that bottom one, which takes you out of how the region might organise its medical resources and delivery of care, and look to within the hospital and how the hospital within its various hierarchies of grades of clinician organises the reporting and supervisory structure, if I can put it that way, can you help us with the extent to which that was appreciated, being adhered to?

MR ORR: That is obviously best practice. What governs that recommendation is the relationship between the junior surgeon and the consultant. If the consultant has confidence that the trainee or junior surgeon is going to make good decisions in a range of cases, he may well say, "You don't have to phone me up about every case", and that may apply in some surgical teams. I'm not defending it, but I'm saying that at a time of transition, and this is 2001, so it's shortly after these recommendations came out, there may well have been agreements that --

THE CHAIRMAN: Sorry, sorry. This is the 1989 report, so it's 12 years later.
MR ORR: 12 years, yes, so there has been a considerable period of transition, absolutely.
MS ANYADIKE-DANES: Pausing there before you go on, does that change your view as to the extent to which systems should already have been in place to comply with these recommendations?
MR ORR: Yes, I think that one would have been working towards implementing these recommendations, but you could still have a situation where a consultant had confidence in a junior surgeon's ability to assess, manage, diagnose, operate on a certain range of cases, including children with abdominal pain. But that would be very much an individual relationship that had been discussed between the consultant and his or her trainee.
Q. Well, Mr Orr, I understand what you mean about an individual relationship, but if you had SHOs who, for various reasons -- they may be coming from abroad -- they may be at SHO grade, although that may belie their experience actually, and through a process of induction or initial assessment, would it not be possible to decide that a cadre of such people could carry out to certain levels certain procedures without having to contact the consultant? Could you not do it in that way

as opposed to the closer relationship that you've discussed between a given clinician and a consultant?
MR ORR: Yes, I would accept that, but the consultant would have to work with the trainee to assess his or her competencies.
THE CHAIRMAN: So this has to be a conscious decision taken by the consultant in relation to each of the junior surgeons --
MR ORR: Yes.
THE CHAIRMAN: -- rather than a more general, "Look, you don't need to contact me, go on about your work"?
MR ORR: Yes, I'd be concerned about the latter. Obviously I would prefer that there was a system where the junior surgeon at least contacted the consultant and said, "I've assessed this patient, here's the background, I have made a decision that we need to take the patient to theatre, are you happy with that; yes or no?", and then proceed. And that is what is recommended.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: In other words, you don't have sort of pre-clearance; you would need to know, for a given procedure, that you were comfortable with that particular surgeon's experience and expertise?
MR ORR: Yes.
Q. Mr Foster, could I ask you to comment on that?

MR FOSTER: Yes, indeed. NCEPOD was in the late -- as the 1980s went on, there became a very important and respected part of the college's work in looking overall at surgical standards. The look at paediatric surgery, particularly occasional paediatric surgery, was one of the first and most important things that had an impact. And we were well aware of this; it began to slowly lead to younger children in my hospital being referred inwards to a specialist centre if they were very young with particular conditions.
This business of being kept informed wasn't very difficult. I just rang them up in the evening. If there was an SHO and a team on that I didn't know, and there might well be, that might well be a case in 2001, the juniors were on rota systems that were restricting their hours, therefore the team might not be your team. And if I didn't know who they were, which you might not necessarily, I would find out what was going on. I used to ring them up about 9 o'clock in the evening and say, "Have you got anything there that is of any concern to you and what have you admitted through the evening?". It wouldn't take someone long to tell me and, if there was a child that someone was thinking of operating on, I would be getting involved with that.
So it wasn't very onerous from my point of view, it

made life a little easier for me to know what was happening. There's no doubt also that the level of experience of junior doctors is extremely variable and, as Mr Orr has said, you really have to know a doctor quite well and have them work closely with you to know the depth of their abilities and their decision-making diagnostically and their ability to do an operation before you can let them free. And there were some SHOs that I wouldn't let do an appendix at all, even after a year or more. They do undoubtedly vary, and you have to keep on top of them. That's the role of a consultant. We would only have a week on duty, which we did a week at a time, as surgeon of the week, from 2000. There'd be two or three children during the week that would need an appendicectomy, so it wasn't, from the child surgery point of view, onerous to try to keep on top of it.
Q. In fairness to Mr Gilliland, he comments on the reception this report got or rather didn't get in Northern Ireland. One sees it in his witness statement at 044/3, page 3. If you look at (iv), he is responding to your comment, Mr Foster, that surgery in children at night should be carried out by a senior operator, citing as evidence the NCEPOD report of 1989. He goes on:
"I disagree with Mr Foster's assertion that the

recommendations of this report had become standard surgical and anaesthetic practice in 2001. They were not standard in Altnagelvin in 2001 and I suspect they had not been implemented elsewhere within Northern Ireland at this time."

We'll leave the other bullet, this is focusing on the involvement of the consultant. The NCEPOD report comes out in 1989 and we're talking about 2001. If that is correct, that it wasn't standard practice and not being implemented elsewhere in Northern Ireland -- and I put this to both of you -- would that have surprised you, given your experience with this in other hospitals in the rest of the UK?

MR ORR: It would have surprised me. There's 11 years to implement a report which, as I say, made a major impact on the profession.

THE CHAIRMAN: Would it worry you?

MR ORR: Yes, it would.

MS ANYADIKE-DANES: And would it worry you because it might have betrayed something about how the guidance and learning in these reports is disseminated, is that the respect in which it might have worried you?

MR ORR: I think the respect in which it would worry me is that in Scotland -- and I can only speak immediately for Scotland -- when this report came out there was

a huge amount of discussion as to how we can implement its findings and I'm quite sure the same happened in many areas in England. And as I say, I'm surprised if it hadn't happened in Northern Ireland.

THE CHAIRMAN: Just for the record, there are extensive links through the colleges and otherwise between surgeons throughout the UK; is that right?

MR ORR: There are, yes.

THE CHAIRMAN: Through the colleges, through conferences and through personal contacts?

MR ORR: Yes, that's correct.

MS ANYADIKE-DANES: If we follow up what the chairman said, both of you are members of the Royal College of Surgeons; is this the sort of thing that would have been discussed and generated debate within the college?

MR ORR: Yes.

Q. Mr Foster, can I ask you whether, if that was the case in Northern Ireland -- the same point that I've put to Mr Orr -- whether that would have surprised you and concerned you?

MR FOSTER: It would certainly have surprised me and it would have surprised NCEPOD, who I think did their very best to disseminate their recommendations and they were clearly written and sent on to college representatives. After all, each hospital has a college

tutor. I presume this hospital had a college tutor. I'm not certain as to why this was not picked up and made the subject of a fairly early meeting and discussion. Particularly as this is a hospital some distance from the centre where the major children's hospital is. This should have been more relevant to Altnagelvin than most hospitals, even those like mine in Mersey, which is only 25 miles from Alder Hey.

Q. You may not know the answer to this, in which case I apologise for putting it, but I think both of you have said -- and perhaps more from Mr Orr -- that this was really quite a change when this came in. Am I right to assume that a report like this doesn't come without having had some considerable research and work to generate these guidelines or recommendations, which themselves may be the subject of discussion before the report is actually finally issued and presented? So there is information already out there that leads to these recommendations; would that be a fair way of characterising the process?

MR FOSTER: Very much so. NCEPOD, when they recommended anything, base it on informed information from NCEPOD reporters. My understanding re the NCEPOD reports is that they do have data fed to them from a number of hospitals in Northern Ireland. I can't now recall

reading the names of them, I don't think they necessarily stated, but it was incumbent on hospitals to feed in data to the centre regarding surgical practice. So I don't know what happened to an NCEPOD request to this hospital, if it happened, for some information about the volume and type of children's surgery performed.

THE CHAIRMAN: Thank you.

MR STITT: I appreciate we're dealing with the general and that is one of the recommendations of the NCEPOD report. But there's also a particular side to this because Mr Foster in his answer said there's a great variance between the capabilities of junior doctors and those who are not consultants. And he said there are some, for instance -- I'm paraphrasing -- who he wouldn't let operate and so on. I've got two questions that I'd like maybe to have put to him.

The first is: is he aware of Mr Makar's experience in June 2001? And secondly: does he agree that the one thing that everyone agrees about in this sad episode, sad sequence of events, is that the actual surgical treatment given to Raychel has not been criticised by anybody in the manner in which it was carried out?

THE CHAIRMAN: Yes. The issue here, Mr Stitt, isn't that the surgery wasn't well conducted, in fact all that

we've been talking about so far this morning is effectively a preliminary issue in the context of the hyponatraemia inquiry because what went wrong with Raychel wasn't -- well, it could only I suppose indirectly be attributed to the operation. What went wrong afterwards really is an indirect and perhaps avoidable consequence of successful surgery. But I think the point that you want to ask about how much the experts know about Mr Makar and his experience -- my concern about that is that the case being advanced by what was the Altnagelvin Trust isn't Mr Gilliland saying, "I was confident that Mr Makar was sufficiently experienced and qualified to do this surgery without referral to me". His line is, "Look, that NCEPOD recommendation wasn't standard practice in Northern Ireland". That's an entirely separate point.

If he had said, "Look, I knew about NCEPOD, there were difficulties in implementing it, but I was satisfied that, of the four junior surgeons on my team, two or three of them were capable of conducting this operation", then that's one line for him to take. But the line that he has taken and the line that he has specifically volunteered in this additional statement that we have on the screen in front of us is that the NCEPOD recommendations from 1989 were not standard

practice in Altnagelvin, nor elsewhere in Northern Ireland, and that's what's causing the experts their concern.

MR STITT: I appreciate that, and I follow the point. That's why I prefaced my question by saying I was coming from the general to the particular. I appreciate the general point that's being made and that can be dealt with in due course under another heading in this inquiry and we will see just what shortcomings, if any, there were in relation to the Altnagelvin Trust and the NCEPOD report of 1989.

But the point really was this: whenever Mr Gilliland was giving his evidence -- and it is a different point, but nonetheless it's linked to Mr Foster's evidence -- there's no -- not that I'm aware of -- serious challenge to the, on paper, capabilities of Mr Makar to perform the appendicectomy on the patient.

THE CHAIRMAN: That's right. This point in essence refers back to the earlier one, which is -- it more ties in not with how the operation was eventually conducted, but it ties in more with whether the operation should have been performed in the first place.

MR STITT: Yes, it does.

THE CHAIRMAN: That's more the point, isn't it?

MR FOSTER: Yes.

MR STITT: It's that aspect of it.

MS ANYADIKE-DANES: Mr Chairman, I wanted just to ask one short question in this area before moving on to a larger area to do with fluid management and I wondered if it would be appropriate to ask the short question and then we might perhaps take a break then for the stenographer and then move on to the fluid management issues.

THE CHAIRMAN: We have to take a break for the stenographer, who's working hardest here, so he needs a break every couple of hours or so.

So let's deal, Ms Anyadike-Danes, with that short point.

MS ANYADIKE-DANES: I'm very grateful, Mr Chairman.

The short question -- well, I hope it's going to be a short question -- well, it is a short question, whether it'll be a short answer ... It is to do with major surgery and that is whether an appendicectomy, so far as either of you are concerned, constitutes major surgery. I wonder if I could invite you, perhaps Mr Foster first, because I think you've actually commented on this.

MR FOSTER: Definitely. Anything that enters the abdomen is a major operation because you're doing it for a surgical reason, hopefully with some diagnostic criteria to

embark upon it. But once you enter an abdomen, you may find anything that might require a major procedure such as a bowel resection, it might require something more simple like an appendicectomy, but that still is removing part of the intestinal tract. So any operation that enters the abdomen is major.

Q. Yes. I think in her evidence on 7 February, I think it's page 60, Dr Jamison's evidence was that anything that breached the cavity, as you're talking about there, in her view -- she's an anaesthetist -- is the definition of major surgery.

I wonder, Mr Orr, if I could ask you to comment on that: does an appendicectomy constitute major surgery?

MR ORR: I would say that an appendicectomy always has the potential for major surgery. There are some definitions of surgical difficulty -- minor, intermediate, major, major plus -- these are terminologies that are used in the private sector when it comes to operations. So you could categorise a straightforward appendicectomy as an intermediate operation. But as has been said, there is always the potential for an appendix operation to become a major procedure with a removal of bowel.

Q. So since you don't know what you're going to find, do you start off treating it as major surgery, even though it may turn out to be relatively straightforward

and minor in that particular respect?
MR ORR: If you're going to carry out an appendicectomy, you either have to be competent in managing any progressive difficulties that emerge or have the ability to call on a senior colleague to help you with that.
MS ANYADIKE-DANES: Thank you very much.
THE CHAIRMAN: Okay, we'll break for 10 minutes.
(11.50 am)
(A short break)
(12.00 pm)
(Delay in proceedings)
(12.12 pm)
MS ANYADIKE-DANES: I'd like to turn now to the issue of intravenous fluid management and to look at it both from the perspective of preoperative and post-operative and to take in the issues of hyponatraemia and SIADH. So it's a rather large area, but it all comes within this topic of IV fluid management.
Mr Foster, in your report -- and we don't need to pull it up -- at 223-002-039 -- what you say is:
"I don't think Mr Makar had any choice in the use of his preoperative fluid regime. The use of Solution No. 18 was standard practice on the paediatric ward. This was the default fluid for use with paediatric medical patients who were under the care of

paediatricians and surgical children were under the care of surgical junior doctors who would have had little experience with the use of this fluid."
Just so that we're clear, you mean little experience with the use of Solution No. 18; is that what you meant?
MR FOSTER: The junior doctors you mean?
Q. Yes.
MR FOSTER: I don't think, until they walked through the door of the paediatric ward, a junior doctor would have heard of fifth-normal saline.
Q. Yes, but if we move away from the JHOs and address Mr Makar, who's not in that category. So far as we can understand it from his CV and from his evidence, he's actually an experienced SHO, and his experience from his evidence was to do with Hartmann's. So he wasn't very familiar with Solution No. 18, not because he was a junior doctor, but because in the hospitals that he had practised in he used and recommended Hartmann's.
MR FOSTER: Yes.
Q. This is the question I want to ask and it's about clinical practice really. It's quite clear that, absent the ward practice or protocol on Ward 6, Mr Makar would have prescribed Hartmann's, and that's what would have been administered to Raychel. How significant is it, do you think, that when a clinician forms a view that the

particular fluid that he thinks is appropriate for a child in those circumstances, that that is changed because of a ward practice?
MR FOSTER: Yes, indeed. I've never heard of a practice like that before. This was new to me completely. I am always used, on a personal basis, for post-operative fluids to be written up by anaesthesia and for that prescription to be adhered to. My understanding is that in the hospitals where I've worked, as far as people can think back, right into the 1990s, that is exactly what has happened. I can't understand a change to a default fluid that is basically water, although I do know that fifth-normal saline is something that has been used for many years by paediatricians for good, theoretical medical reasons.
Q. If I interrupt you there -- and I apologise for doing so -- the fluid regime -- and I want to run through it in chronological order -- starts off with Raychel preoperatively.
Mr Makar forms a view as to what fluid he wants her to have. He takes a view she needs some fluid and he forms a view as to what that fluid should be. We'll come on to the rate he wants secondarily. Then there's the period of time during her surgery, which is when her fluids are being managed by the anaesthetists and they

form a view of what they think is the appropriate fluid. And you are quite right, in the immediate post-operative phase, the anaesthetist did actually think that part of his role was to prescribe that fluid and he did so. As it turned out, that was not the position that happened in Altnagelvin on Ward 6.
Then there is a period of time after that, perhaps leading up to the ward round, and at the ward round itself, when there is a further opportunity in relation to what the fluids should be. So there are a number of phases when Raychel's fluid management could come under the scrutiny of a clinician, but I was at the very start.
This is Mr Makar, pre-surgery, deciding that for clinical reasons he wanted Raychel to be administered Hartmann's. And he is then told by Staff Nurse Noble that Hartmann's is not the solution that is used on Ward 6 and he goes up to Ward 6 and changes it and the prescription is written up for Solution No. 18, which is the ward protocol.
So my question to you was: if a clinician has taken the view that a particular fluid is appropriate for his patient, can you pass comment on that being changed to satisfy or fit in with the ward practice?
MR FOSTER: Well, obviously on Ward 6 there was a protocol

that was set in stone that the only fluid that goes into a patient is Solution No. 18, fifth-normal saline. One has to put oneself in the position of a junior doctor, even an SHO of Mr Makar's experience, and he was probably ahead of the pack in terms of his clinical background, in a hospital he's not worked in for a great deal of time, being in a position to do what he is told. And he's told: this is the protocol for this ward and this is laid down by the consultant staff and it's what all the children have, would you change it please? And I don't think he would have had a great deal of choice at his level of seniority, but to comply with what Staff Nurse Noble asked him to do.

He would assume that at that stage all Raychel required was replacement fluid to cover a period of starvation whilst he was unsure of the diagnosis and wished to starve her pending a clinical decision on surgery or not. And it probably didn't matter at that stage what the fluid was. It could have been dextrose by itself. That's water as well. Personally, what I would have done is, when the time came to realise -- hopefully realise this operation can be postponed until tomorrow, I would probably have let her drink. But then that didn't happen, so she went on to theatre.

But I think at that point in time when all he was

wishing to cover was her tentatively preoperative period of fluid starvation, it was perfectly in order to use Solution No. 18, but I don't think Mr Makar had any choice, as a doctor of his seniority, in complying with the request.

Q. I think what you have said there reflects some of his evidence, which is that did he change it, but given the length of time he thought that Raychel was likely to be under that regime, he didn't think in the scheme of things it was a particularly significant change.

MR FOSTER: Yes.

Q. But if it had been, if it had been post-operatively, for example, would it have been of concern to you that a junior doctor might feel they had to fit in --

THE CHAIRMAN: Sorry, let's leave the post-op. Let's stick with the phases.

MS ANYADIKE-DANES: Yes. I'll put that to Mr Orr then.

THE CHAIRMAN: Do you take a different view on what Mr Foster's said about the preoperative fluid?

MR ORR: There was clearly an established protocol on the ward, and as I understand it, in many other units across Northern Ireland in paediatric units, and in fact, looking at the literature, in the 1960s/1970s, many paediatric units used fifth normal, 0.18 normal saline and dextrose as the standard fluid therapy on the wards.

So that was an established protocol. And protocols are there for good reasons because it means that everyone gets used to using them, it doesn't mean to say that they are set in tablets of stone, they can be changed. But I think it would be difficult for a registrar who may not have had a huge experience on that ward to say, "I insist that we change the fluid", because, as has been said, he's envisaging a straightforward appendicectomy, probably coming off the intravenous fluids later that day with the introduction of oral fluids, so would probably not be too concerned that he had to comply with a request to use Solution No. 18.

MS ANYADIKE-DANES: Do I take it from the way that you've answered that that you're not concerned with there being -- it may not entirely have been a protocol, it may be more accurately described as a practice? You are not too concerned about there being a practice like that? Would you be concerned about a practice that was inflexible so that it couldn't be changed to suit a given circumstance?

MR ORR: Yes, I would be. There should be flexibility in any guideline, protocol, so that it can be adapted to the clinical situation. But the clinical situation envisaged here was, as I say, a progressive and rapid recovery from the operation when giving this solution

would not have caused -- or should not have caused -- any difficulties in the short-term.

Q. Yes. It's probably correct to say that, in view of some of the doctors and nurses, I think their evidence amounted to: if a given clinician felt very strongly for clinical reasons that some other fluid ought to be prescribed, then that probably would have happened, and I think at least one said it had happened. But this was now the routine, it may be that the degree of flexibility was perceived in differing ways by different clinicians, and that may be something that has to be addressed later on in another stage of the inquiry. But if I summarise what your position is and, Mr Foster, maybe comment if you disagree with it, that a default or a practice that was the generally held view as to what should happen with children's IV fluids was common and possibly there is no difficulty with it so long as it can be adapted to suit a given need in a certain situation. Would that be a fair summary of your position?

MR FOSTER: Yes. Surgery doesn't work like that. People have things wrong with them, they may vomit, they may have diarrhoea, they may have particular problems, they may be different ages, there may be electrolyte results that point at something. You have to have a flexible

approach to putting fluid into people's veins.
THE CHAIRMAN: Mr Orr, you started your answer to that issue by saying that there was clearly an established protocol on the ward and in many other units across Northern Ireland in relation to Solution No. 18. Am I reading too much into that to get an indication from you that you would be a bit unhappy about that as an established Northern Ireland practice?
MR ORR: We're talking about -- it was established ... Well, I don't know when it was established in Northern Ireland, but it appeared to have been practice on medical paediatric units in the UK during the 1960s, 70s, 80s, running on up into the 90s. So if this was an agreement by clinicians that this was the basic fluid that they would use, allowing for any adaptation that was indicated clinically, I would have been comfortable with that.
THE CHAIRMAN: Okay.
MS ANYADIKE-DANES: And in 2001?
MR ORR: I'm not advocating it for surgical patients. This, as I understand it from reading the material a couple of months ago now, was the established guideline for usage in the medical paediatric wards.
Q. If they had applied that to post-surgical paediatric patients and included them in their established

practice, if I can put it that way, in 2001, would that have concerned you?
MR ORR: Not if the patients were being monitored actively and we'll no doubt come on to this. If you had a patient on a longer term intravenous fluids, you would be checking their urea and electrolytes and you would be adapting the intravenous fluids accordingly. It clearly wouldn't be my practice and it would be for others to say what the practice was amongst the surgeons carrying out children's surgery in this hospital.
Q. So if I understand you, it wouldn't be what you would do, but if that was happening in relation to post-surgical paediatric patients, then you wouldn't be very uncomfortable with it so long as they were being appropriately monitored?
MR ORR: Yes.
Q. Thank you. We'll come on to what "appropriate monitoring" might mean, but that's a fair statement of your view?
MR ORR: It is.
Q. Mr Foster, would you disagree with that?
MR FOSTER: I completely agree with Mr Orr.
Q. The other part of what Mr Makar prescribed is the rate. There have been varying views as to whether the 80 ml an hour was an appropriate rate, but I think ultimately

because the view was that it wasn't going to be very long, I don't think anybody has expressed -- but tell me now if you have -- particular concern about the fluid being set at 80 ml an hour pre-surgery. You're not particularly concerned about that?
MR FOSTER: Preoperatively, again expecting a normal clinical course from an appendicectomy if it was required, he's covering a starvation period where there's no oral intake, and it probably didn't matter, for the few hours that they envisaged, what rate the fluid was. But if you go back to basic principles to calculate intravenous requirements of a child of 25 kilograms, then the rate is too high.
Q. It's too high, but if it wasn't going to persist for very long, it wouldn't be overly troubling to you; would that be fair?
MR FOSTER: If it was over a short time -- and we're talking here about 65 to 80, we're only talking about 15cc an hour difference -- of course it wouldn't matter. But in the very long-term, the effect of a higher rate would multiply.
Q. Mr Orr, would you be of similar view?
MR ORR: Yes, I would agree.
Q. Thank you. That's pre-surgery. During surgery, she goes on to Hartmann's and it's not clear what the rate

was that she was on. It also wasn't clear until a retrospective note was made exactly how much Hartmann's she received. The anaesthetic note, all it says is "1 litre of Hartmann's". The retrospective note indicates that it was 200 ml. There is a bit of an issue between Dr Gund and Dr Jamison as to whether it was 200 or 300. I think most people have formed the view that that doesn't really matter very much in the general scheme of things. What we come on to next is the post-operative period. Dr Gund is the anaesthetist. He was of the view that what he would have liked her to have, if I can put it that way, is Hartmann's, and he would have liked to have continued that Hartmann's on, but in fact he went so far as to write a prescription for it, which you may have seen, and that was struck through because he was disabused of that and told that the immediate post-operative fluids would be addressed on the ward. He took it no further than that except, I think his evidence indicates that he did think that a clinician would actually turn their mind to it and write up a prescription and I think he's joined in that by Dr Jamison, the other anaesthetist, who also thought a prescription would be written up for those fluids.
Can I ask a similar question that I asked for the pre-surgical position? Here you have another clinician,

of a different discipline this time, who wishes the child to have a particular fluid, Hartmann's, after surgery. Presumably he does that for clinical reasons, but he's dissuaded from doing that. Do you have a view as to whether he, as the anaesthetist, should have been able to establish what her immediate post-surgical fluid regime was?

MR FOSTER: I think if he had been one grade up, SPR or even higher, of course. Dr Gund was a fairly new anaesthetist to working in this country, although he had worked in India in quite a busy capacity for a long time. But one has to put oneself in the position of a young doctor, finding his feet in a new country, in a hospital he's new to working in, and he would, I'm sure, have been disconcerted to be asked to change his prescription, which is a perfectly normal post-operative prescription for a child, a balanced electrolyte solution post-operatively.

But he would have taken this as a request. For all he knew it may have been backed up by senior clinicians somewhere as part of a policy. In fact, it probably -- that's probably what it meant. So he did what he was requested. He, I am sure, had problems with that. A senior person would have said, "I'm sorry, I'm not prepared to prescribe this, I would sooner prescribe

Hartmann's please. That is my prescription, please apply it", but I think if one puts oneself in the position of a young man who feels in a vulnerable situation, he's going to go along with it, bearing in mind, in the long-term, he's going to think, "Oh well, okay, she's had a normal appendix removed or at the very, very most a slightly-inflamed one removed, let's go along with it because there won't be a problem particularly and she'll be on oral fluids tomorrow".

Q. I understand that, but my question to you was slightly different. It was: should he, as the anaesthetist, have been allowed to manage those immediate post-operative fluids? I understand your answer.

THE CHAIRMAN: I think there's a bit of confusion earlier on. You had asked Mr Foster a question about pre-op and he answered it in terms of post-op. I'm just looking back at the answer you gave a few minutes ago, Mr Foster. You said you had never heard of a practice like this before:

"This was new to me completely. I am always used, on a personal basis, for post-operative fluids to be written up by the anaesthetist and for that prescription to be adhered to."

Do I take it that that's your position on what happened --

MR FOSTER: What I'm saying really is that I have never heard of a policy where the fluids to be given to a child pre or post-operatively were dictated by a protocol generated from the ward. That virtually takes the whole anaesthetic profession out of the frame and out of the ability to prescribe fluids for children that they had anaesthetised. That seems bizarre and non-professional, but it would have taken a more senior anaesthetist than Dr Gund to go up there and say so.

MS ANYADIKE-DANES: Yes, but if we just follow on that you didn't know of such a practice, I take it from that that your position is he should have been allowed to control that aspect of her immediate post-surgical fluid regime.

MR FOSTER: Absolutely.

Q. I think you were saying to the chairman it is your experience that the anaesthetists do that very thing, that the immediate post-operative period is one where the anaesthetists do prescribe the fluids because -- I'm assuming -- they have been in control of the fluid regime during surgery, they know what's happened, and they know what they're trying to address.

MR FOSTER: That would be the policy in their hospital and they would prescribe the fluids for the patient post-operatively. I always thought, on a national basis, the fluid prescribed post-operatively for a child

is prescribed by anaesthesia. That is their role and they should be given it freely.

Q. Yes. Can you see any benefit in the immediate post-operative fluids being managed and prescribed, not by the anaesthetist, but by a practice that has presumably been developed by the paediatricians on the ward? Can you see any benefit of that?

MR FOSTER: No benefit at all. What I see is a little recipe here for problems in the future.

Q. I wonder, Mr Orr, if I could ask you to comment on -- I don't want to put the self-same questions, you have heard the questions so you know what the issue is. I wonder if I could ask you to comment.

MR ORR: It would appear that the practice was that when a patient goes back from theatre to the ward, then the prescription was taken over by the ward staff -- and I'm using that in the broadest terms. It would be my experience that, normally, it is the anaesthetists who prescribe in the post-operative period. That period varies, but it's normally until the patient gets back to the ward and perhaps the next six hours, but it will vary. Usually, the initial prescription is by the anaesthetist. I'm not aware what the arrangements were in the hospital here for that kind of process. You would have expected that, again, there would have been

a standard way of managing that transition from theatre to the ward.

Q. And can you see any benefit in it being other than the standard practice you've just described, which is that the anaesthetist does it for the immediate post-operative period?

MR ORR: Only that there was an established methodology and established protocol so that would avoid any confusion, but the downside is that it does not allow the anaesthetist to control what he sees as the required fluids in the immediate post-operative period. And I think we could come up with scenarios where the anaesthetist would have to insist that the patient has fluids other than Solution No. 18.

Q. And then if we move on --

THE CHAIRMAN: Sorry, that would be, for instance, if there were significant losses during surgery?

MR ORR: Exactly.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: I suppose one could say if there were that sort of thing, he could enter a note on to charts and whoever is going to prescribe that on the ward could take that into consideration. That's one way of addressing it, to which you might wonder if he was going to do that, why doesn't he simply prescribe out of his

knowledge and experience of what happened in theatre?

MR ORR: Yes.

Q. I wonder if I could ask you this. Things happened slightly differently, as you probably know, in Raychel's case, which is that in addition to Solution No. 18 being the practice as to what the IV fluids should be on Ward 6, it seems that there was a practice -- it's not entirely clear, but it seems that there may have been a practice -- which is that if there was no other prescription, when the child, post surgery, arrived back on the ward, they simply reactivated any preoperative prescription for fluids there might have been and simply just carried on with that. Mr Orr, do you have any knowledge of that as a practice?

MR ORR: In this instance, if they'd done that, from both the surgical point of view and from the anaesthetic point of view, Raychel would have received Hartmann's solution.

THE CHAIRMAN: No, sorry, this is reactivating the preoperative fluid prescription, not the perioperative.

MR ORR: Right, okay.

THE CHAIRMAN: So the question was: have you any experience of the preoperative fluid prescription becoming the post-operative fluid prescription?

MR ORR: It would not be my experience that that is what

would happen in my practice or in other hospitals that I've worked in.

MS ANYADIKE-DANES: Mr Makar said that actually he didn't appreciate that that's what happened in Altnagelvin. His firm view in his evidence was that, had he known that, he would have said something about that, because his evidence was: look, I prescribe a particular fluid, in this case he didn't have much choice as to what the fluid was, but I certainly prescribe a particular rate in the light of the condition of the child and that may not be the condition of the child after her surgery. So his view was not only would he have wanted to make his views known, he foresaw there might be some dangers in such a practice because you might have a child who was on a wholly inappropriate rate for that child because it didn't take into consideration what had happened during surgery. Do you have a view on that?

MR ORR: My view is that normally the anaesthetists make a decision on post-operative fluid management and it wouldn't be a fallback to whatever the fluid was preoperatively.

Q. If there was such a practice, would you be surprised?

MR ORR: Well, if there was an established practice, yes, I would be surprised because it would go against what the anaesthetic community certainly would think about

post-operative fluid management.

Q. And would you be concerned?

MR ORR: Yes.

Q. Mr Foster, you have heard the question. It's the same thing. Can you comment on that?

MR FOSTER: I agree with Mr Orr. Post-operatively, intravenous fluids should start off with a clean sheet, depending on what has happened during the operation, and it would be anaesthesia who would ordinarily do this or it would be anaesthesia and the surgeon in consultation who would write up the fluids to succeed theatre. If I had been in the situation of Mr Makar, I can see his problem, he would just assume that what would happen would be the practice that he has accepted and seen regularly in the past. I would not expect a rather bizarre protocol to be followed when fluids had been used before at the same rate. It doesn't make anaesthetic or surgical sense.

Q. That leads into another issue that both of you address, which is the recognition that the body's response to stress and trauma is to release antidiuretic hormone. Very frequently, in surgical circumstances, that's what the body does, the effect of which is to retain water. And I think both of you have expressed the view that it was common to, in recognition of that, actually reduce

the rate of any IV fluids post surgery to ensure that the patient didn't receive too much fluid, bearing in mind that the body's response is retaining fluids for some period of time.

I wonder if you could help us with -- maybe if I ask you first, Mr Orr -- how well-established, if I can put it that way, that tendency was in your experience to reduce the rate of post-operative fluids?

MR ORR: It is or was an area for debate and there was variation. There is a great deal of published information about this, which can be viewed contrary. There is an argument to reduce fluids by about a third of what you would normally prescribe post-operatively, but not all units follow that protocol. So I wouldn't say that giving the normally estimated post-operative volume was something which was wrong or abnormal. I'm not expressing that very well.

What I'm saying is that there is an argument for reducing the fluids post-operatively, there is also an argument you should carry on giving patients fluid because there are circumstances where this inappropriate reaction can be seen as a response to a lack of fluids. So it can be a response to hypovolaemia as opposed to too much fluid.

THE CHAIRMAN: In Raychel's case, there are really three

figures: 80 ml is the rate which was prescribed preoperatively; 65 is the rate which you think would have been appropriate, but neither of you has any particular difficulty with 80 because it was envisaged as being a short-term prescription; and then there's an argument about whether the post-operative rate should have been reduced to somewhere around 52 or 50.

So if I understand your answer, Mr Orr, you're saying there's an argument for reducing the 65 to around 52 or maybe by a little bit more, but that wouldn't be uniform. So that in itself would not be a strong criticism. But before we turn to Mr Foster, maintaining a rate of 80, is that significantly more questionable?

MR ORR: Yes. Maintaining a rate of 80, you would have to look at, because clearly the longer that fluid rate goes on, the greater the differential between what would be the normally prescribed level of 65, so let's say 12 hours on you've then got a significant extra fluid load, so I'd be uncomfortable with 80 ml being carried on for a long period. But it would appear that it was envisaged that that rate was going to be cut back as Raychel became established on oral fluids.

THE CHAIRMAN: And the broad picture is, by around lunchtime on the Friday, that rate would have started to be reduced and might have been discontinued later on that

day entirely?

MR ORR: Yes, that's correct.

THE CHAIRMAN: Okay. Had that happened, then the fact that she had been getting 80 ml, say, between, for the sake of argument, from post-operatively until around midday, and then reduced to, say, 50 or 40 ml, then we wouldn't be where we are today, we wouldn't be sitting here?

MR ORR: Yes. Sorry, chairman, clearly we all know it's more complex than that because it's not just about the rate; it's about the type of fluid that she was receiving.

THE CHAIRMAN: And the vomiting?

MR ORR: Yes.

THE CHAIRMAN: We'll develop those.

MS ANYADIKE-DANES: Just before, Mr Foster, I ask you to comment on that, for the sake of clarity if we pull up your report, Mr Orr, where you deal with this very point. It's at 320/1, page 7. You say:

"It is usual on the first post-operative day to reduce the volume of maintenance fluid because of the inappropriate secretion of antidiuretic hormone, leading to a potential increase in water retention."

I should have said that's 3.3. It's the last sentence in that paragraph.

That's the bit that I really wanted to ask you, what

you meant by "usual" in those circumstances.

MR ORR: "Usual" in my practice, the practice in my hospital, but not necessarily a standard practice across the UK.

Q. Thank you. And even if it wasn't being followed as a standard practice, was the issue of fluid reduction and whether in any given patient it should happen, is that something that you would expect surgeons to be aware of?

MR ORR: It would be something that I would expect surgeons to have a view about and have discussed with their anaesthetic colleagues and therefore there to be some kind of consensus on a surgical unit because if you don't have that consensus, you will have confusion if there's a number of different surgeons and anaesthetists working to different policies.

Q. Yes. Mr Foster, I wonder if you could comment on that issue as to the extent to which it was a recognised matter that, post-surgically, you reduced fluids by whatever margin in recognition of the effects of antidiuretic hormone?

MR FOSTER: It's something that's been in my mind ever since I was taught it in 1973. I can remember -- it's one of those few things I have a picture of the professor speaking as to the importance of this, not

necessarily in children, it was said I'm sure in relation to adults and the elderly who could easily be driven into overloading of fluids in cardiac and pulmonary problems. But the theory still applies to anyone who's had an operation. And it's a practice we have always adhered to.

I used to do a lot of major bowel surgery in adults, of which a number were elderly, and it was always thought to be extremely important to do this because there are great fluid shifts around the body after two or three hours of having a major operation, and the anaesthetists always liked to see fluids reduced post-operatively until they saw a level playing field, as it were, after a few hours, and they did some bloods -- that's electrolytes, full blood counts and so on -- and they saw where they were with the patient and then they would normalise them.

Q. But the very example you've given there may be a reason why you perhaps wouldn't have a blanket policy because you accommodate some sort of surgery where the bodily cavities are exposed for some considerable period of time, where you might expect there are more losses, greater shock or trauma to the system, and other procedures which are short and perhaps less invasive than that, which might not produce the same reaction.

MR FOSTER: Yes, I accept that, but I think, again, back to anaesthesia, my colleagues who I would trust to get it right would be aware of the length of time an operation took and would be aware of in-theatre losses by evaporation and so on and would factor that into the post-operative fluid requirements. But as a general rule, if there wasn't an excess loss of fluid by direct blood loss, intestinal contact loss, evaporation due to time, then you would calculate an amount of fluid based on the body's requirement and reduce it by a small amount. It's just something I've said for so many years I don't see a -- I have never seen an alternative process.

Q. So all of that really is pointing to, because of the very circumstances you have just discussed, the anaesthetist, perhaps in combination with the surgeon, being the people who are most knowledgable about what happened, prescribing the appropriate type and rate of fluid?

MR FOSTER: In a big operation, you would be discussing with anaesthesia, and you would come up with a consensus as to the rate of fluids. But as a surgeon doing the job, you wouldn't be aware of what had gone on -- I'm talking adults now -- gone on from a cardiac point of view and so on and you would have to -- there's all sorts of

other parameters coming in, affecting fluid requirements and the ability of the body to cope with them. And I would always defer to expert anaesthetic colleagues from this point of view.

Q. Yes. It's right to also mention a paper that Mr Gilliland relied on to show that fluid reduction -- both of you had it in your reports. It perhaps wasn't as standard or as commonplace as was suggested. The paper is called:

"Perioperative fluid therapy in children: a survey of current prescribing practice."

The advance publication date was 2006, it's published in the British Journal of Anaesthesia. The reference for it, which I can give, is 317-029-001, and what I would like to pull up is page 003.

This paper followed on from a survey of anaesthetists', current at that time, fluid-prescribing practice during the perioperative period and looking at departmental fluid protocols and the awareness of concerns of the Royal College of Paediatrics and Child Health about Solution No. 18, actually. And if one looks at post-operative fluids, which is why I pulled up this page, you can see that the most commonly prescribed fluid for post-operative maintenance was 4 per cent dextrose/0.18 per cent saline or 2.5 or 5 per cent

dextrose with 0.45 per cent saline. And then one sees:

"Isotonic fluids were not commonly prescribed."

If we go to the next column, just above "Discussion", you see:

"194 respondents provided information on how they calculated post-operative maintenance fluid."

"It's not a very large sample size, I recognise that, but nonetheless you may be surprised at the results:

"The majority based the calculation on Holliday-Segar."

That's 81.8 per cent.

"Nineteen, the equivalent of 9.3 per cent, quoted an approximate, but incorrect formula."

But if you move on:

"Only 5.9 per cent [of that survey] would restrict the fluids. 72.4 per cent would prescribe 100 per cent of predicted maintenance fluid and 2 per cent would give volumes in excess of the amount calculated."

So in terms of fluid restriction, it's actually quite a small percentage of an admittedly small sample size. So by 2006 anyway, post-operative fluid reduction didn't seem to be something, on the basis of this paper's sample, that was commonly followed, if I can put it that way. Are you in a position to offer a --

MR ORR: Clearly this is paper that's 2006 and certainly I hadn't read that paper before I made my comment. But my comment was in relation to what I realised, that certainly there were units that would prescribe at 100 per cent. I couldn't have given you figures.
Q. Yes.
THE CHAIRMAN: But again, the problem isn't so much that Raychel goes back on 100 per cent or that she's getting 80 ml an hour, the problem is what then happens as Friday progresses.
MS ANYADIKE-DANES: Yes. I wonder if I could ask you this question to do with the inappropriate antidiuretic hormone, or rather moving on from the antidiuretic hormone response. That can develop or at least in some children that can be expressed as an inappropriate response. I wonder if you can help with -- it may be that you don't know -- why some children develop an inappropriate response. Mr Foster, maybe?
MR FOSTER: I don't really know and I don't think anybody does. But there is one thing that bothers me here and this is to go back to the protein in the urine again. Because it is signifying something not right happening in the kidneys' filtration mechanism or tubular mechanism to allow protein to be lost. I'm not a nephrologist, but I have always been slightly

bothered, I think, about the situation here: was there something in the kidneys that predisposed Raychel to an inappropriate response of the kidneys to hormonal feedback and the ADH problem and led to an over-retention of fluid? It bothered me and I have to vocalise it here. I can't give you an answer because I'm nothing like academic or specialist enough in nephrology.
Q. The significance of it, following on from the way the chairman was posing the question, is things move on, that combination of that inappropriate retention or too much retention of fluid, coupled with the loss of the sodium-rich gastric juices through prolonged and severe vomiting, added to receiving, over a significant period of time, over-maintenance levels of low-sodium fluid. That combination of those three factors, it seems the experts have suggested -- and indeed the coroner found -- have led Raychel to the development of her cerebral oedema, which ultimately led to the herniation and coning. So that's why I was asking you about why Raychel, if you could help us, developed the SIADH. The evidence from the clinicians is that Raychel was treated not particularly any different to any number of children of her age, who would have come in to have an appendicectomy or other surgery of a similar nature and

they did not develop in the way that Raychel did. There may be some other factors that distinguished Raychel, but this is why I asked you that question.
I don't know, Mr Orr, if you can help, whether you are aware of why some children develop -- and Raychel seems to have been one of them -- from that normal hormone response into SIADH.
MR ORR: Again, I think it's important to emphasise that I'm not an expert on inappropriate ADH secretion, nor indeed in the nephrological aspects of this case. But what I think I can say is that we are not always sure why patients develop this potentially catastrophic response. There are cases in the literature where children undergo very minor surgery with minimal fluid replacement and still go on to develop the signs of inappropriate ADH with fluid retention, cerebral oedema, the fitting, and that has been recorded in minor cases, and it's difficult to explain why it occurs in these cases.
THE CHAIRMAN: But you know that there's a risk that it can occur and this all feeds back into observations on the Friday, does it, and on monitoring Raychel's progress and acting in a timely way?
MR ORR: Yes, but there are cases where patients appear to have made an initial uneventful recovery and then some hours later go on to develop this syndrome, which

clearly is worrying. That's why I'm saying it's difficult to say exactly why Raychel developed this progression downwards.
MR STITT: If I may, just on this point, clearly the SIADH is one of the central issues in your inquiry, sir. And it's something which was addressed by Mr Scott-Jupp yesterday. And you will recall -- and I have made a note of the page -- at page 113 of his evidence, he said that he had never seen this degree of hyponatraemia causing a cerebral oedema on this type of fluid. And he concluded that there was a very excessive degree of ADH. Maybe that's not disputed.
But may I ask, before we pass on this subject -- and it's no more than a hypothesis and Mr Foster is reasonable enough to say that it's not evidence-based -- but if there is in the evidence some paper or something which he, not being a nephrologist, believes would sustain the contention that the plus or plus plus proteinuria was somehow a factor, I would ask that that be articulated at this point. But if it's merely a feeling, it's one which we respect, but I would like to know the weight and the degree of confidence which Mr Foster has in his theory.
MR FOSTER: It's merely that the -- we have an abnormality in this case preoperatively, which was proteinuria, and

we know it is seen in a number of children normally if there is such a word as "normally". It is the only thing that was detected preoperatively as something that didn't fit in the box of "normal", and post-operatively, there was a problem with renal excretion of excess water. I'm probably just posing the question from common sense and being a basic doctor that -- is there a link here? And that's where we need a nephrologist maybe. So it's a possibility that has occurred to me.

All this illustrates, as far as I can see, is the importance of making measurements in the perioperative and post-operative situation that identify problems, that identify where a patient of any sort is not fitting into the profile of what should be expected, and that is why fluid balance charts have to be accurate, otherwise there's no point in keeping any of them. That's why records of fluid loss should be accurate, otherwise there's no point in keeping any of them. And as long as these protocols are adhered to with great care, that is the only way you can identify the very rare patient who fits into this category.

MR STITT: For clarity, on behalf of the Trust, I will not be disputing the importance of record keeping and that's what the charts are for, I think that's self-evident. But I'm just trying to get some clarity as to where

we are in relation to this proteinuria point again because we've dealt with the dipstick point and we know that a full analysis, laboratory analysis, would take two or three days, which is obviously further down the line. But I think that the witness has answered as best he can.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: I wonder if I can just follow up from something which both the chairman and you, Mr Foster, mentioned, and put this to you, Mr Orr, which is: even though you may not be able to predict in advance why any given child develops SIADH, is it something nonetheless that was recognised as a possibility? That's one part of what I would like to ask you. In 2001, was the possibility of an inappropriate response recognised so far as you're aware?

MR FOSTER: Yes. Yes, and I recall going to meetings and hearing discussions of this as a reinforcement of the reason for accurate record keeping because you couldn't in any other way predict these cases or spot them.

Q. If I ask Mr Orr the same question.

MR ORR: In 2001, there should have been a knowledge in the surgical community of the condition of inappropriate ADH.

Q. Yes. And then, as I say, if it's something that you

can't accurately predict, you can, I think as Mr Foster was saying and the chairman was indicating, start to chart whether it is developing, would be I right in saying that, by monitoring, to start with, whether there is urine output? That might be a way to start seeing whether the child is behaving abnormally; can I put it that way?

MR ORR: It's the basis of post-operative management of all patients that you have a clear idea of their fluid balance. That's critical, not just in thinking about inappropriate ADH. But it is critical that you have accurate fluid balance charts and you respond to these appropriately in terms of your fluid prescription.

Q. Dr Scott-Jupp said yesterday, yes, you do want to have some appreciation of the volume of vomit, the incidence and volume of it, but he regarded it almost as equally important to have an appreciation of output: when did she pass water, how often did she do it. If you've got any sense of what sort of volume it is, that might be easier to do in some children than others, but anyway that's another important measurement so far as Dr Scott-Jupp was concerned; would you accept that?

MR ORR: Yes, I'd agree.

MR FOSTER: Yes.

THE CHAIRMAN: Let's come on to post-operative management

after lunch. We'll start again at 2 o'clock.

(1.10 pm)

(The Short Adjournment)

(2.00 pm)

MS ANYADIKE-DANES: Good afternoon. If I could follow on from the discussions before lunch about urine and its measurement, I think both of you have expressed the view that it was --

MR STITT: I'm sorry for cutting across, I thought --

MS ANYADIKE-DANES: I am going to deal with that.

Both of you agreed with Dr Scott-Jupp that it was important to measure the urine output insofar as you could because the volume of it or the incidence of it might tell you something about the child's condition, in particular whether the child was developing this inappropriate response, if I summarise it in that way.

Does it follow from that that you're of the view that the nurses or the junior doctors during the day should have been noting whether she was producing urine?

MR ORR: Yes. You should be observing the fluid balance chart, both the nursing staff and the doctors, when they're looking at the patient.

Q. Yes. So it's one thing to be accurately recording the output, but it's also something to note, to take note of the incidence of passing urine, whether it's happening

at all and if it is happening, how often it's happening; would that be fair?

MR ORR: Yes.

Q. In this case, the record, if they'd looked at it -- in fact I think there's one record of it on the fluid balance sheet that she passed urine at 10. If they had asked Raychel's mother or she realised that was important, she could have told the nurses that she also went to the toilet at about noon or thereabouts and there's a query over whether she went to the toilet and passed urine on one other occasion after that. But if that's all you had, is that something that, in combination with the vomiting, you think the nurses should have been cognizant of and been drawing to the attention of the junior doctors?

MR ORR: Yes.

Q. And if the junior doctors had been aware of it, is it something that should have resonated with them and, if they didn't know what the implications of it were exactly, but drawing it to the attention of their SHOs?

MR ORR: Yes.

Q. Thank you. Sorry, I didn't specifically ask you, Mr Foster, but I saw you nodding there. Does that mean that you agree with that?

MR FOSTER: I agree to all three yeses.

Q. Thank you. There was a point that I wanted to pick up with you, Mr Orr, something that you said before lunch. It's on page 90 [draft]. You were talking about the extent to which children have gone on to develop SIADH, associated with low sodium. Are you able to help us -- and you said that that was known. Are you able to help us with whether that's known because it's in the literature or it's known because just generally clinicians have experienced it? What is your reference for that?

MR ORR: I have references for cases that have occurred. When they have occurred -- I'm in danger of repeating myself. They have occurred in patients who have undergone minimal surgery and then, at a later stage, have developed the inappropriate ADH syndrome with cerebral oedema, et cetera, et cetera. But it's not clear why these specific patients had developed inappropriate ADH secretion.

Q. When you say "cases", do you mean case studies that are in the literature, if I can put it that way?

MR ORR: Case reports in the literature.

Q. I'm not going to ask you to do it off the top of your head now, but if you do have those, I wonder if you could furnish them to the inquiry so that we can make those available?

MR ORR: I can do that.

Q. Thank you very much indeed.

It may be that there are some in the article that Mr Gilliland kindly furnished to us. If you could give us an indication if this is the sort of thing you had in mind, it's reference 317-029-006. If one goes to the second column, just a little above halfway down, it starts:

"The syndrome of inappropriate ADH (SIADH) was described in 1957; the production of inappropriately concentrated urine in the presence of hyponatraemia and low plasma osmolality in the absence of hypovolaemia and with normal renal and adrenal function. Experts have emphasised the dangers of administration of hypotonic saline solution in the presence of elevated ADH concentrations in a child who is acutely unwell, either advocating only isotonic solutions with dextrose in the post-operative patient or avoiding hypotonic solutions if the plasma sodium decreases below 138 mmol/litre."

And it goes on. There are, within that block that I've been reading out, references to the footnotes of authorities. That particular one is 31, which, without going to it now, the page, I can say it is a paper titled:

"A syndrome of renal sodium loss and hyponatraemia,

probably resulting from inappropriate secretion of antidiuretic hormone."

And that paper was dated 1957. Incidentally, in the references, one sees the first case in the inquiry at reference 3, which is a paper by Armour:

"Dilutional hyponatraemia: a cause of massive fatal inappropriate cerebral oedema in a child undergoing renal transplantation."

Which is a paper that was published in 1997 in the Journal of Clinical Pathology.

In any event, are you saying that in these sorts of articles there are papers that deal with the question of SIADH and how one should address it and how it might arise?

MR ORR: What I am saying is that clearly the syndrome is well recognised in the literature and has been since 1957, that there are a small number of cases where children who have not had major surgical operations have gone on to develop inappropriate ADH syndrome, and it's unclear why these children have developed that syndrome.

Q. Yes. I'm not going to put this up, but for those who can access this paper, if you look at page 008, there is a list of references, some of which are dealing with the very issue that you're talking about as well as other related matters to do with fluid management.

But if you have your own case study papers, if you could furnish those, that would be very helpful.

If we can now move on to the question of the ward round and consultant involvement at that stage. You have assisted us by commenting on the immediate post-operative phase and who you think ought really to have been prescribing and in control of Raychel's fluids and why you've said that. We come now to a time when her night-time, if I can put it that way, seems to be entirely uneventful: nothing really happens, she doesn't vomit, she's asleep, and we get to the ward round, which is some time about 8/8.30. It's not entirely clear because it's not dated in the notes, but it would seem to be around that time.

That ward round is carried out by Mr Zafar, who's an SHO. He has conceded that he had very limited paediatric experience. I wonder if you could help me with that as a first stage, which is in your view, on a post-take ward round involving paediatric patients and what level or grade of clinician do you think should have been conducting that ward round? Maybe starting with you, Mr Orr.

MR ORR: It would be good practice for either a consultant or a senior trainee to take a post-take ward round.

Q. And by "senior trainee", do you mean a registrar?

MR ORR: Yes. In 2001, it would still be a registrar, yes. An experienced registrar or a senior registrar if there was a senior registrar in the hospital.

Q. And why do you say that?

MR ORR: Because I don't think that an SHO with limited experience has the required experience and indeed competencies to take a post-op ward round -- a post-take ward round.

Q. I wonder, Mr Foster, if I can ask for your comments on that issue.

MR FOSTER: Well, a post-take round is one of the most important events in a surgical unit. If a consultant is on call, say once or twice a week, we are talking about one or two occasions to go round and see the patients who have come in under your care and to progress some treatment plans for them for the next few days. Undoubtedly such a round should be taken by a senior person, consultant preferably, very much so, or an SPR at the very least, just about so.

It should also contain a representative of the team who were on call overnight and the day before ideally. Doctors are on strict rotas these days, way back in 2001 too, and it is likely that the SHO who was on overnight and the previous day would be going off before too long and should have accompanied that ward round to appraise

the incoming team, the consultant's team, as I have read it, of the patients who had come in.

It's also important that there's continuity maintained for the patient's benefit and that a doctor who had seen the patients the day or night before would be a familiar face to them on the post-take ward round with a consultant that they had not met. So it is an important part of the day. It is an opportunity to teach the medical students about emergency presentations and should be taken extremely seriously.

Q. The way you have characterised that ward round is a team of clinicians, really, going round to see the patients. You haven't said so, but I assume you'd expect a nurse to be present at that time?

MR FOSTER: Oh yes. There would be a different nurse on each ward, but the team remains a team and it can have a central starting point which, if a child had come in my hospital -- it doesn't have to be -- it was convenient to start on the paediatric ward because there would only be one or two children, it wouldn't take a long time, and then you'd go on to the others. But the team goes around. Occasionally we would let someone go if they had to go off somewhere, but I would expect the specialist registrar, two SHOs, PRHOs and some students.

Q. Well, what happened in this case, as you probably know from the evidence, is that there may have been a team like that. It's not entirely clear who comprised it, but it seems that there was a registrar there. The identity of that registrar we don't know. But in terms of Raychel within that ward round, Mr Zafar was sent to deal with her -- I think the expression used is an outlier -- because she was the only post-take surgical child in Ward 6 and may in fact have been the only surgical child in Ward 6, so he was sent off to go and do that ward round by himself, as it were, and it may be that the team then carried on and saw other patients. Before I come to you, Mr Orr: Mr Foster, what comment do you have on that as a practice?

MR FOSTER: Extraordinary. It's almost as if Raychel was treated as an afterthought, "Oh, there's a paediatric patient in the children's ward, somebody's got to go and see her". It's serious business when somebody has come under the care of the unit and had an operation just a little over 12 hours before, if that -- let me get my arithmetic right, not even that, 8 hours and a bit before. She requires assessing, ideally by the person who had done the operation or, just about acceptably, by somebody else of experience who had spoken to the surgeon who had done the operation, but not by somebody

who, by his own admission, has had very limited experience of children and has a long experience of specialist cardiothoracic training, which is very different to general surgery and to be sent off there on his own with no particular plan or being told by your senior what he's going for and what he's supposed to do is extraordinary.

Q. Would it make any difference to your view to know that it may be that it was considered appropriate or acceptable to ask Mr Zafar to carry that out because, in fact, it had been an uneventful surgery and she appears to be in a completely unproblematic and unconcerning state, if I can put it that way?

MR FOSTER: At that point, I don't think so because it would only be an uneventful operation if somebody of seniority had checked young Raychel post-operatively and deemed it so.

THE CHAIRMAN: So is part of your concern is that this is a continuation of Raychel not being seen by somebody in a senior position?

MR FOSTER: Yes. This is a post-operative check. She's only been in the ward under the nursing care and vital sign recordings, so this is the first time for a doctor to see her and compare her to her appearance and condition preoperatively. That's why in my view

Mr Makar should have been doing this little part of the job.

MR STITT: Mr Chairman --

THE CHAIRMAN: I was just going to mention Mr Makar.

It's fair to say that as Mr Zafar, just after he had seen Raychel and as he was leaving with the ward sister who accompanied him, they passed Mr Makar, who was coming in to see Raychel post-operatively. They don't appear to have had any discussion of substance and then Mr Zafar went on his way and Mr Makar went on in and saw Raychel in what Mr Makar described as his check to make sure that things were progressing as he had expected.

MR STITT: That was the point I was going to make. I was also going to say that the evidence would show that both Mr Makar and Mr Zafar addressed their minds to Raychel's condition. We know -- and this can be put to the witness -- that there is no witness saying that Raychel's condition gave any cause for concern.

I appreciate that's slightly off the point, but nonetheless ... And thirdly, Mr Gilliland, who was the named consultant, believes that he was on the ward round in one of the other wards and believes that he would have been informed as to Raychel's condition by, he thinks, Mr Zafar, although the evidence on that is not absolutely clear.

THE CHAIRMAN: I think it's also right to throw into this rather complicated mix that there had been concerns expressed by the nursing staff on Ward 6, the paediatric ward, that it was taking some considerable time into the day for the surgeons to reach them because they were starting on the adult wards and working their way along and there may be an interpretation of the evidence which is that, in order to ensure that surgical children were seen reasonably promptly early in the morning, that somebody would be sent from the normal surgical ward round to the children's ward to check up on the children patients. Okay?

MR FOSTER: If they wanted to adopt that practice, then the senior person on the ward round should have gone. But it may well be that the senior person on the ward round was Mr Zafar.

THE CHAIRMAN: Yes.

MR STITT: The point I'm making is, with respect, it's unfair to say that the hospital was treating Raychel as an "afterthought". The nurses had responsibility for her, two doctors had seen her, and the consultant apparently had been advised as to her condition. If she was not well --

THE CHAIRMAN: Sorry, Mr Stitt, you're commenting on the evidence. What you're saying is that you disagree with

their evidence. A comment on the evidence is inappropriate.

MR STITT: Of course it is.

THE CHAIRMAN: Mr Foster said "almost as an afterthought", but his basic point, which is absolutely clear, is that this is one of the most important events in a surgical unit and his surprise is clearly that Raychel was seen on that ward round not by a consultant and not even by a registrar. That's his point.

MR STITT: That's his point. But that having been said, if the judgment of those who had looked at and seen Raychel was faulty, then there might have been some more weight to the point.

THE CHAIRMAN: I'm sorry, that's a second comment on the evidence, Mr Stitt, and I won't accept it. We are going to get through the evidence this afternoon without people standing up and commenting on the evidence. Okay?

MS ANYADIKE-DANES: Mr Orr, if I can ask you now for your view. You've heard the line of discussion in relation to this question about the ward round. If we can start with your view as to whether you agree with Mr Foster that the kind of ward round that he was anticipating might happen is where the team, if you like, moves through and sees the patients. Is that a ward round in

a paediatric ward that you would be familiar with?
MR ORR: Yes. I think a team approach is entirely appropriate and it is very common in many units. That's what you'd expect. You would also expect that team to go to the paediatric ward. We've heard the reasons why somebody might be detached and report back, but it is still important that a senior person, a consultant or specialist registrar, actually sees the patient.
Q. I think the way Mr Foster put it was really twofold. One, it's important because the patient warrants somebody of that seniority to assess their condition and plan their care for that day; and the other, it provides a very good teaching opportunity for trainees and more junior clinicians so you can use the patients and how you're regarding their condition as a way of teaching your more junior clinicians. Would you accept it has a dual function in that way?
MR ORR: I would accept it has a dual function, but the most important thing is that the consultant, the named consultant in charge of that patient, has actually seen the patient, or his delegated representative, and that can only be in a children's ward -- in this situation, where that is not the main part of their practice, it has to be a senior registrar or specialist registrar.
Q. And how significant or important do you think that is,

that that is a practice that should have existed?
MR ORR: I think it's very important. I would be very uncomfortable not to have seen patients that have come into my ward.
THE CHAIRMAN: So we can debate and discuss what the consequences are for Raychel of what happened on that ward round and it may be that on this particular occasion the consequences were not very serious, but the concern I'm receiving from both of you is that this practice was below standard?
MR ORR: Yes.
THE CHAIRMAN: Mr Foster, yes?
MR FOSTER: Yes.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: Thank you. When Mr Zafar does go, it's not entirely clear the charts that he looks at. He says that he didn't appreciate that Raychel had vomited at 8 o'clock, although he recognises that that is recorded on her fluid balance chart. Sister Millar, who was there, says she told him that, but in any event he said he didn't appreciate that. He also didn't, on his own evidence, pay very much attention to the fluid regime that she was on and how long she had been on it and so on and the details of it. And his explanation for that is because she looked so well to him that he really

didn't envisage her being on IV fluids for very long at all. So in his mind, that fluid regime was going to come to an end, so from that point of view, it really didn't matter to him particularly -- I hope I'm not undermining his evidence -- but it didn't really matter to him that she was on Solution No. 18 at 80 ml an hour because she wasn't, in his view, going to be on any IV fluids for very long.
If I start with you, Mr Orr, if you had formed that view that here is a child who had come through very successfully a rather short and entirely straightforward appendicectomy, if you'd formed that view and that you didn't really think that she was likely to need much further IV fluids, can you comment on how acceptable it was not to look at her current IV fluid regime?
MR ORR: Well, I don't think it is acceptable. It's standard practice: as you do a ward round, you look at the charts, and these charts are pretty standard across the UK and Ireland. You have a fluid balance chart, you have a temperature/pulse/respiration chart, pretty standard. You look at these as part of the process, you look at the patient, you make an assessment. So you should not omit looking at charts on a ward round.
Q. Even if the child looks to all intents and purposes perfectly well to you, the parent who's with her seems

to be happy with her condition and the sister is not reporting any concerns? Even in those circumstances?
MR ORR: I would still look at the chart.
Q. Mr Foster?
MR FOSTER: Completely agree. It's not just looking at the patient, it's looking at the pieces of paper that have been kept over the night on her condition and observations. One observation was of a vomit. That, I believe, should have prompted --
THE CHAIRMAN: Although the vomit is entered in the record at 8 am, it is not clear on the evidence that Raychel had vomited before the ward round. That entry may have been made at some time before 9 o'clock after the ward round.
MR FOSTER: I think so, but I can't recall offhand, if someone could prompt me.
THE CHAIRMAN: I think that is the position. It's unclear whether that vomit had been recorded.
MR FOSTER: The vomit was at 8 --
THE CHAIRMAN: Sorry, if you look at the record, it appears that it was at about 8, but in fact the records which were made during that day tend to have vomit recorded at 8 or 11 or midday, but you shouldn't take that to be precisely that time. That might mean 11.30 or 11.45 or something. Okay? So it's not clear that there was

a vomit to have taken into consideration at the time the ward round was conducted.

MR CAMPBELL: Sir, Sister Millar's evidence was clearly to the effect that she had informed Mr Zafar of that vomit.

THE CHAIRMAN: And he had either no recollection or denied it. I can't remember which.

MR CAMPBELL: I accept that, but the point is that she was clear in her recollection that she had imparted that information and she had entered in the treatment book "oral fluids later". The later --

THE CHAIRMAN: Because of the vomit?

MR CAMPBELL: -- became significant because he had said, "Delay those because of the vomit".

THE CHAIRMAN: Sorry, thank you very much. That's quite right. In that event, let's go back to the question. It might be that I have picked up the wrong sequence.

If sister's right, if Raychel's vomit took place before the ward round and if this was drawn to Mr Zafar's attention, does that emphasise the fact that that's another thing for him to take into consideration?

MR FOSTER: Yes, I understand, sir. That should have prompted him, at the very least, to have said -- well, accepting that he expected her to follow the expected recovery profile, I think he should have realised that having noticed that and being aware of the very junior

nature of the cover below him of the doctors who were responsible for the ward, I think that should prompt merely a comment to Sister Millar, "Please let me know again if anything like this happens later in the day and I will come and see her".

MS ANYADIKE-DANES: Mr Chairman, just for reference purposes, I think it's Sister Millar's evidence on 28 February, page 87, lines 1 to 4.

THE CHAIRMAN: Is it in accordance with what Mr Campbell said?

MS ANYADIKE-DANES: I believe so. In fact, my recollection is that she had said, in her inquiry witness statements, two things: one that she had told him that and, secondly, that it was in the fluid balance chart.

There we are:

"I said to Mr Zafar that Raychel was progressing well. Her observations were normal. There was nothing of major concern except I pointed out or said to him she had had a vomit at 8 o'clock."

So that repeats what she said in her inquiry witness statement.

So in your view, that should have prompted some consideration?

MR FOSTER: The vomit?

Q. Yes.

MR FOSTER: Yes. I think as I said, that should have prompted Mr Zafar to issue some command, instructions, to sister, as he was the only person who wasn't a junior house officer covering the ward, and that should have been to please let me know if this happens again and I will come and see her. I'm not saying he should necessarily have ordered some blood tests at that point, but it should have prompted him to act as a doctor, as a surgeon, and say to the sister, "I will come back if this happens further".

Q. If I can ask you, Mr Orr, you have said in your view, irrespective of how well Raychel looked, he should really have looked at the charts, fluid balance chart, temperature, respiration, pulse, and so on. If he had done that, what is it that you believe he should have taken from that? What effect should that have had?

MR ORR: It may be that there was nothing of note on the fluid balance chart or on the observation chart, but if there was a record of vomiting, then that would have prompted a response, a request, to be informed if there was a further episode of vomiting.

Q. There were two actual fluid balance charts. One started at 8 o'clock for that day and there was a fluid balance chart from the previous day. If he'd looked at those, he would have seen that she had been on Solution No. 18

at 80 ml an hour throughout, apart from the period when she was in theatre. If he had seen that, is that anything that should have prompted any further consideration by him, whether or not in combination with the vomit?

MR ORR: At this stage, no. I think we've already discussed the fact that he is proposing to reduce the intravenous fluids, to increase the oral fluids, so, no, I don't think it should have prompted any other action at this stage.

Q. And Mr Foster?

MR FOSTER: I think that's perfectly reasonable. He was expecting a normal situation to be developing as the day went on and that would have allowed the fluids to be reduced. The only blip was the vomit and he should, I believe, have -- it would only have taken him 5 seconds to ask that he be informed if it happened again.

Q. What it seems he wanted to happen was Raychel to be gradually introduced to fluids orally, so she was to start with sips and so forth, and then in due course for her to come off the IV fluids completely. That's not recorded in the note that he made of the ward round, but in that territory is something that the sister understood. They may have slight differences of exactly

the detail of it, but the sense of that she understood. There was an issue as to whether Mr Zafar meant she should stop fluids completely, but leaving that kind of question aside, do you think that it would have been appropriate for him to have included a little more detail in his ward round note about what he was anticipating or what he would have wanted to happen? Mr Orr, if I ask you that.

MR ORR: That would have been good practice, but it could well be that the standard practice on the ward was that if you're dealing with this kind of information, such as the introduction of oral fluids, that that was dealt with verbally between the medical and the nursing staff. And if that was the accepted practice, I wouldn't criticise that.

Q. Yes. Mr Foster?

MR FOSTER: I think as long as -- let me just see where we are here. I think a good sister should be well capable of receiving an instruction to introduce oral fluids, reduce the IV, and start oral fluids. And a sister of many years' experience would, I believe, have known how to do that, by starting sips and increasing them, and when she thought that Raychel was stabilising on oral fluids -- and I think that should include the recording of some urine output to match the

oral fluids, then it's perfectly reasonable for a good ward sister to then discontinue the IV. In my experience, that's what the sisters do.

Q. In fairness to Mr Zafar, I think he has acknowledged that it probably would have been better if he had added a line or two to the entry he made in the chart just to make matters clear in ease of anybody coming after him, they would be clear as to what he had wanted.

Can I put it in this way: following on from what Mr Foster said, Mr Orr, if he's communicated what his plan for Raychel is, in fact how he envisages she will continue to progress, would you agree or not with Mr Foster when he's indicating that should something happen that isn't quite in accordance with that, that he would want to be told? Mr Foster's example was if she were to vomit again. Do you have a view on that?

MR ORR: Yes. You're making an assumption that if you have a plan for the introduction of oral fluids, withdrawal of IV fluids, and for whatever reason that cannot progress, you would expect, later on in the day, to be informed that that wasn't happening. So there should have been an alert, let us say, a few hours after that.

Q. And do you think that's something that you would have needed to tell the sister or do you think that's something the sister should have understood from your

discussion as to how you thought she presented and your plan for her?

MR ORR: As I understand it, this is a senior ward sister that we're talking about, who is comfortable taking oral orders on the ward round.

Q. Yes.

MR ORR: In my experience, senior ward staff have no hesitation in coming back to the doctors, saying, "I have a concern about this patient. We're not able to progress the patient to oral fluids because she is continuing to vomit". So I'd expect feedback when the expected progress is not being made.

Q. Yes. And some of that will depend, from the way you've framed that, on the quality of the communication. If Mr Zafar has made clear how he sees matters developing, then you would expect that the senior ward sister would pick up on that and, if matters are not progressing like that, to let somebody in the surgical team now?

MR ORR: Yes. So this is the difficulty. We're now talking about oral communication, which is not recorded. So clearly, it has to be very clear between both parties just what is expected.

Q. Yes.

THE CHAIRMAN: Sorry, that also sort of leads sideways into an issue we're going to inevitably spend a little time

on this afternoon which is: if Raychel does vomit again, is it Mr Zafar she goes back to because he knows something about Raychel because he saw her on the ward round, or is it sufficient to contact a JHO?

MR ORR: In my experience, if a doctor raises a management point with a nurse, the nurse will try and get back to the doctor that initiated the order in the first instance.

MS ANYADIKE-DANES: Mr Foster, do you have a view on that also?

MR FOSTER: My view is absolutely the same as my colleague's. The surgeon is the person to be communicated to and not an extremely junior pre-registration house officer.

Q. Yes. There might have been a point that I missed with you, Mr Orr, and I apologise if I did or if I'm repeating myself. Mr Foster had said that one of the things he thought should happen in the ward round is that Mr Makar should be involved and then we went into that discussion about how Mr Makar and Mr Zafar met. What I wanted to ask you is whether you think that Mr Makar should have been involved in the ward round so that there could effectively be a handover as well as a ward round. Do you have a view on that?

MR ORR: Ideally, there should have been some form of

handover, but that has to be placed in the context of whatever shift or on-call arrangements took place that morning. I am hearing now that there perhaps was a discussion between Mr Makar and Mr Zafar and that would be entirely appropriate. I wouldn't say that Mr Makar would have to go on the ward round provided he'd communicated the previous night's findings, his operation, and what his plan was post-operatively with Mr Zafar.

Q. Does that mean that, in your view, Mr Makar actually ought to have had a post-operative plan, which he could then discuss with Mr Zafar, who's going to be having the conduct of Raychel's care during the day?

MR ORR: I would hope that all surgeons have a post-operative plan in their mind that they discuss with their colleagues when they're handing over.

Q. Yes. Mr Zawislak, who was the registrar to whom Mr Makar says he spoke before he carried out the surgery, when he was asked in his evidence about ward rounds and handovers in Altnagelvin, his view was that they happened simultaneously, that you had a handover within the ward round as it were. Is that something that you'd be familiar with?

MR ORR: I'm familiar with a joint ward round between the outgoing staff and the ingoing staff, but I think what

you're describing is something different.

THE CHAIRMAN: That could encompass it, couldn't it? When the overnight team arrives or a member of the overnight team arrives at Raychel's bedside with a member of the day team, you can do the ward round and have any handover simultaneously.

MR ORR: You could do that, yes.

MS ANYADIKE-DANES: I think that's what Mr Zawislak had in mind.

Mr Foster, Mr Orr has said what he thought would happen in an exchange, whatever place it happened, but in an exchange between Mr Makar and Mr Zafar, Mr Makar, who would have had in his mind a post-operative plan for Raychel, would be discussing that with Mr Zafar, who's now going to come on and take over the management of her care during the day. Do you agree with that or do you have some other view as to what would be involved in that kind of discussion?

MR FOSTER: I very much agree. Mr Makar had done an operation that finished after midnight the night before. He, I personally believe, should have gone himself to see Raychel and see her dad at the same time, check that he was happy about her -- he was the operating surgeon -- and then he should have handed over to Mr Zafar with any instructions that he had. That would

be a proper handover. Without a discussion, there isn't a handover or there wasn't a handover.

Q. Thank you. Mr Zafar's view in his evidence was that he thought that Raychel would be, if she wasn't going to be off her IV fluids by noon, would be off them fairly soon after that. And as a result of that, his view was that if a paediatrician or any clinician was being asked to put up another bag of IV fluid, he would have rather wanted to know about that. Mr Foster, do you think that's something that ought to have been communicated to Mr Zafar?

MR FOSTER: I think the timeline of expecting Raychel to have started fluids by lunchtime is about the norm, yes. To just put up another bag is committing IV fluids for a litre's worth of 80cc an hour necessarily over 10 hours, more IV fluids.

Q. Sorry, if I just interject at that stage. Does it have to? If you put up another litre of Solution No. 18, does that have to commit to you 10 hours or can you not just say, "We'll just use two hours' worth of this bag", if I can put it that way?

MR FOSTER: Oh yes, I quite agree. Not at all does it commit you as long as someone is actively in control of the administration of it and not just leaving it on some sort of autopilot.

If the bag had been put up, then that has to correlate with some form of close control over Raychel's oral intake over the next few hours. And I agree that's something Mr Zafar should have been asked about.

Q. And Mr Orr?

MR ORR: I agree.

Q. When you were discussing the fluid regime earlier and you were saying that Solution No. 18 at the rate of 80 ml an hour, that might be something that could be done in certain units, and you wouldn't be perhaps overly concerned about that depending on how long it went on so long as there was appropriate observation and monitoring, that would be the key because that would alert you to that particular regime causing any difficulties, if I can summarise it in that way, what did you mean by that? What kind of observations are you talking about? Who is to direct them and when?

MR ORR: I'm talking about fluid management, which involves observation of urine output and vomiting. So if you reach a situation with a patient, let us say round about 1 o'clock in the afternoon, where there has been vomiting and there are concerns about the urine output, I would be reassessing the fluid regime and I would probably be considering taking bloods for urea and electrolytes.

Q. In the way that you have put that, because it wouldn't be you personally making those observations, although if you were in the position of a surgical team you might be in receipt of the information about them and any concerns they gave rise to, it would be the nurses really doing that. On a paediatric ward like Ward 6, would you be expecting those nurses to be monitoring that in that way, alive to the potential significance of it, without any direction from the doctors?

MR ORR: The nursing staff should have been briefed on the ward round as to what was expected. If there was a variance from that expectation, then the nursing staff should be contacting the medical staff appropriately.

Q. So they take their lead from the plan, if you like, that's discussed at the ward round?

MR ORR: From the plan and from their experience of managing post-operative patients.

Q. Thank you. And Mr Foster, in terms of the observations, is that something that, as Mr Orr has said, you would expect experienced nurses to do once they appreciated the plan that the clinician had or do they require further direction in relation to that?

MR FOSTER: Well, as I said earlier, I think Mr Zafar should have put in the caveat that if vomiting repeated, he would like to know. What should also have happened is

the second thing, the nurses should have been seeing round about lunchtime, round about 12 o'clock, that Raychel was beginning to depart slightly from the expected clinical profile of recovery and, yes, they themselves should have expressed their concern to either Mr Zafar himself or to Dr Butler, who was asked to prescribe the next bag.

Q. And now that you've mentioned Dr Butler, do you see any role for Dr Butler in here in relation to Raychel's fluid management? Perhaps I could ask you that, since you have mentioned her, Mr Foster.

MR FOSTER: I think the accepted practice on the ward was obviously that the paediatric SHOs -- and she was a paediatric SHO -- were, from time to time, asked to provide continuity prescriptions. There should probably have been some guidelines when that sort of process was adopted so that, after all, a doctor who was beginning to be paediatrically trained would be given some information as to what they were actually writing up and why it was and why it was required at this point after an appendicectomy. It's very easy for a busy young doctor to just say, "Oh, you want another bag, fine, I'll write it up then", and not, unless any anxiety or concern is expressed to them, appreciate that this wasn't just a mechanistic act to allow a drip to

continue. I'm sure any good paediatric SHO -- and I do believe that Dr Butler is entirely conscientious in this -- had picked up any vibration that all was not well, she would have gone to see Raychel on her own initiative and have taken things further.

Q. Should she have asked? If I can put it in this way: I asked a similar sort of question to Dr Johnston, who was also a paediatric SHO, and his view is that he would have been quite reluctant and a bit uncomfortable to go in and do even that for a surgical patient because it's not his patient and he doesn't know the context in which he is doing it. So he would have wanted to know a little bit more about Raychel before he did even something that appears as straightforward as erecting a new bag of IV fluid.

THE CHAIRMAN: Be careful because he went a bit further than that. He said: but on the other hand, you have to weigh up the fact that you're working with these nurses every day as the paediatrician on the ward, and if you appear to be overly cautious or a bit unhelpful, it might not go very well for you.

MR FOSTER: I think that was a very careful comment from Dr Johnston. He's advising caution in just going blindly prescribing because, once you do that, you're putting yourself in a slot of being one of the patient's

caring doctors. He put this as well as anybody could. It is a pity that paediatric SHO missed the opportunity to get a little more acquainted with the case, but I wouldn't necessarily say that that was bad practice. I think she just thought she was being helpful to the nursing staff and having had no concerns expressed to her, did what she was asked. I suspect having heard of later events, she regretted that.

MS ANYADIKE-DANES: Which is the sort of thing that might get picked up when you do critical incident reviews after the event to look at those sorts of practices and the extent to which they expose both doctors and patients.

MR FOSTER: Oh yes.

Q. I wonder if I can now turn that to you, Mr Orr. The same issue, really, which is what role you think Dr Butler ought to have had, if any, in Raychel's fluid management.

MR ORR: It would appear that there was a practice on the ward for the duty medical paediatric SHO to prescribe, whether that's fluids or medication, and one can see why that occurs on a paediatric ward. The difficulty I would have with it is that you then take the surgical staff out of that potential line of information. If one of the surgical HOs had been involved, he might have

then questioned, "Right, we're prescribing intravenous fluids for how long? How is this patient going to be monitored? Is this a patient that I've actually seen?". So I do have a concern about that particular practice. I can see why Dr Butler acted as she did and I think it was appropriate that she did that prescription.

Q. Yes. And when you say that it could have the effect of taking the surgical team out of the loop a little bit and therefore a slight loss of continuity of care or information in relation to care, might that be addressed from the perspective of communication? So if she'd done that, but either written something more up in the notes or in fact just contacted her surgical colleague and said, "Look, I've just been asked to do this, just to let you know, I have put up another bag, that's something for you to be aware of".

MR ORR: I think the latter would be more appropriate, but I do appreciate that these are busy wards with busy junior staff and there may well have been some interruption where she didn't have the time to do that. But ideally, there should have been some communication between the medical SHO and the surgical junior staff.

Q. And if she didn't do it, could the nurse who's actually asked her to do it -- and they provide the absolute continuity of care -- not have notified a member of the

surgical team to say, "Just to let you know, this is where we stand with Raychel: I've asked for another bag to go up because the first one's finished and I think we're not at the stage where we can cease IV fluids"; would that have been appropriate?

MR ORR: It would have been possible. Whether it's appropriate really depends on what the arrangements were in the paediatric ward for management between the medical paediatricians and the surgical junior staff of surgical patients.

Q. Yes. When you were discussing earlier about what happens on mixed wards, if I can put it that way, and you had characterised the sort of multi-team approach perhaps and communication in that would be very important, is that the sort of thing that would be helpful to have some sort of guidance or practice about? Because essentially, one discipline is coming in to provide care to another discipline's patient, if I can put it that way, albeit for the very good reasons that you have mentioned. In terms of making sure there's no misunderstandings, nobody slips between the two disciplines, is that something that in your experience one might have a guidance or practice note about?

MR ORR: Yes. There needs to be clarity and that clarity has to be agreed at consultant level and all the

trainees and the junior staff need to know what that arrangement is.

Q. Mr Foster?

MR FOSTER: I agree with Mr Orr. If there's proper collaboration and communication between the teams and, as you say, as Mr Orr says, at consultant level the teams would feel free to talk to each other frankly and properly at any time.

THE CHAIRMAN: How normal would such an agreement have been in 2001 in a district general hospital between surgeons and paediatricians?

MR FOSTER: It was very normal. It was certainly the protocol in the hospital I worked in and where I worked previously in Nottingham. The paediatricians took overarching control of all children, surgical and medical, and would visit and see each patient every day, and this made sure it was clear who was in charge. The surgeons were also there for surgical matters, but that immediately eliminated any equivocation about who was in charge and controlling the case. So I think that was a protocol followed by a significant number of hospitals, but I can't say how many, sir.

THE CHAIRMAN: Dr Scott-Jupp finished yesterday afternoon by saying an arrangement which he described as paediatricians increasingly taking the lead

responsibility on a ward such as Ward 6 in Altnagelvin was becoming increasingly common in recent years, though he thought it was probably not yet a standard arrangement. Would that be an assessment you would agree with?

MR FOSTER: Oh, very much so.

THE CHAIRMAN: Sorry, I should say I think he was, in terms of a timescale, dating it in more recent years rather than 2001.

MR FOSTER: People I've spoken to -- it goes so far back they can't remember when this was followed. It pre-dates people who have retired in the last few years. I think that is common, the paediatricians feel responsible for children because they're paediatricians, and that is the ward which they go round and live on and they go round at frequent intervals and are in a position to see the children rapidly if necessary.

MS ANYADIKE-DANES: Yes. Mr Orr, there are two issues there. One is whether there is a developing practice whether in a paediatric ward the paediatricians essentially have the effective management of those children with other disciplines coming in and dealing with issues specific to their disciplines, for example the surgeons or whomsoever, orthopaedic perhaps, whomsoever. The other one is where you haven't got to

that stage, so essentially the medical and surgical disciplines have their own patients, but in recognition of the point that Mr Foster's made that the paediatricians are there more frequently on the ward, that there is a collaboration between them, so that the paediatricians do involve themselves in the care of surgical patients when a surgeon is simply not available. Do you see those two different things and have you seen those two different things in operation?

MR ORR: Both these models can be applied -- and where you say "a developing model", I would also say "developing and developed". I was a surgical houseman a long time ago in a district general hospital with a medical paediatric unit with paediatric surgical patients in it. There was a range of surgical specialties and the paediatricians there managed the medical needs, including the fluid balance, in consultation with the surgeons. So that is almost 40 years ago. So these models are not new. I'm not saying they were universally applied -- clearly they were not -- so there have been examples of that type of co-operation over many years and a looser approach of discussion between surgeons and paediatricians as to how they're going to cooperate on managing patients in the ward.

Q. Thank you. We are in the area of the system of care and

the responsibilities for post-operative care and how that worked on Ward 6. That's really the natural place where we are. If I can move to you, Mr Orr, because in your report -- and I think it would be helpful to pull this up. This is witness statement 320/1, page 15.

It's your answer to (x). This has moved on to a different issue. What you have so far been helping us with is the situation where one discipline is assisting in the care, from time to time, of the patients of another discipline. This issue is to do with effectively -- or some of it is to do with -- who's in the front line of the surgical team, who are those who are most likely to be exercising their immediate judgment about whether anything needs to be done, whether a more senior surgeon needs to be contacted, and maybe even a paediatrician brought in.

So at least the comment that you make in answer to the question of the adequacy of the system that Altnagelvin had in place for the provision of medical care for post-operative children is:

"The system in 2001 appeared loose."

You talk about that if the junior house officers are expected to care for children:

"... they have to be closely supervised and have immediate access to senior advice and support and there

should be an arrangement where junior surgical staff can obtain advice, support and direct intervention from the paediatric medical staff."

And then, thirdly, in relation to the nurses:

"The nursing staff should be aware of their responsibilities when communicating with junior doctors who are caring for children, recognising that they may need support and encouragement."

Presumably particularly if they are very junior and inexperienced in paediatrics.

I'm wondering if the comment that you make there comes out of your experience. Do you have experience of how systems either work or don't work when they rely on the very junior members?

MR ORR: The simple answer is that they don't work if you're relying only on junior medical staff because junior medical staff are not experienced, particularly in medical paediatrics. It's very unusual -- well, I think nowadays it would be very unusual for a foundation doctor, an F1, to be exposed to paediatric patients. It did occur around about this time that you would have pre-registration house officers carrying out duties on a medical paediatric ward, but they would be very closely supervised.

Q. Yes. Well, firstly, you've answered one part of the

question that I wanted to follow up with you, which is that it did actually occur, so in 2001 this practice was known.

MR ORR: Yes.

Q. Is it something that met with any comment that junior house officers were in this position so far as you're aware?

MR ORR: Well, I think it has always been recognised that it is very challenging for a newly-registered doctor doing their preregistration post to be working in a paediatric environment. It is a post that usually attracts highly motivated, very good junior doctors.

Q. Is it a practice that developed by default because they just happened to be more readily available or is it a conscious practice so far as you're aware to have junior doctors as the first port of call before you bring in more senior members of the team who may be busy doing other more serious things? Not serious, sorry, but things that require greater experience.

MR ORR: I would hope that it hasn't developed by default because these are training posts, so these are posts which should have been assessed by the deanery as having educational value and the supervision and support would have to have been in place before these posts were recognised.

Here, I'm talking about pre-registration house officers, and as I understand it, the situation here is that there are medical paediatric SHOs and pre-registration house officers, one of whom seemed to have duties in both the medical ward and then on rotation covering the surgical wards at night.

Q. Yes.

MR ORR: So I'd assume that that post had been educationally approved and was well supervised.

Q. What he said was he had done his first six months in surgery and he was now doing his second six months on the medical ward and that he had been asked -- and we're talking about Dr Curran here -- to come back and cover the evening as a surgical pre-reg because the person who would otherwise be doing that simply wasn't available. He did say that that was the first time that he'd been asked to do that so he can't say that that was a practice. But the practice I was referring to was the pre-reg, the JHOs, being the first port of call at all, which seems to have been the system for the surgical patients. They didn't have JHOs in paediatrics, so the first port of call for them would have been an SHO, if I can put it that way.

Do you have any comment about the JHOs being the first port of call, effectively, for the nurses and

making that decision as to how we respond and where we go from there?

MR ORR: It would only be appropriate if there was a very clear line of communication and support to the SHO or the registrar.

Q. And what did you mean in this part of your report where you refer to how they must be closely supervised? In what way would you see that as being achieved?

MR ORR: Through ward rounds, and ideally more than one ward round a day, through regular communication between the house officer and the SHO and registrar during the working day, and perhaps supervision of interventions that were being carried out if the house officer was inexperienced in that area. So it's part of a training programme.

Q. Yes. Dr Devlin, when he gave his evidence, who was the first of the two, Dr Devlin and Dr Curran. He comes to administer the anti-emetic at about 6 o'clock -- and we're going to come to that in a minute -- but just so you have this point: his view really was that he regarded his position as being very much an assistant. He certainly didn't think that he prescribed. He effectively carried out that which had already been established or directed to happen during the day or evening. That was the role that he saw for himself.

Can you comment on that as a JHO's, in 2001, role?

MR ORR: I'd say there'd have to be a real clarity about how he was supported if, as you say, he felt he should not be prescribing, yet here he was prescribing and he was prescribing very effective or a very effective anti-emetic.

Q. In fairness to Dr Devlin, there's a distinction between he and Dr Curran. Both of them administered anti-emetics. Dr Devlin who came at 6 o'clock effectively carried out a prescription that Dr Gund had written up, if necessary, if you like, and the nurses, by that time, had decided it was necessary, so he was effectively carrying out a pre-prescription, if I can put it that way. So he's in a different position to Dr Curran. But that was his view -- and I stand to be corrected -- that he was very much as an assistant. Would you characterise a JHO as that in 2001?

MR ORR: No. In 2001, I would characterise a house officer as a trainee with certain prescribed clinical duties.

Q. And requiring close supervision and immediate access to seniors?

MR ORR: Yes.

Q. Then if I ask you, Mr Foster. The system that Mr Orr has characterised as how he interpreted what was happening in Altnagelvin, how do you regard the system

of the hierarchy and the flow of communication between the nurses and the JHOs and the more senior colleagues from what you have seen in the papers?

MR FOSTER: It was ramshackle. The junior doctors were -- the junior house officers were trainees, as Mr Orr has said. The primary duties on a take day was to -- a duty day was to look after the patients in the adult wards, and that can be extremely time-consuming, as some of these young doctors have said in parts of their evidence. Tacked on to the side of that was this commitment to be called to the paediatric ward, to a specialty ward, of which they would have no knowledge or training to carry out duties assigned to them largely by the nursing staff. I believe a competent nurse would probably have more of an idea of what should be done for a particular patient problem than a pre-registration house officer working a busy day with some stresses. They would not be able to apply their mind properly and closely to a paediatric problem. They would not be able to write down clearly what they had done, which they did not, and they would, I believe, have had to have some supervision, so some command to approach their seniors, as they would have been off to the adult wards to carry on with their busy work there.

MR STITT: Sorry, I didn't mean to interrupt Mr Foster

in the middle of a sentence, but when he's finished the sentence, I would like to make a point.

THE CHAIRMAN: Sorry, had you finished your sentence?

MR FOSTER: I was just going to say, their duties were primarily adult. They would have gone back to busy wards where tasks no doubt awaited them and I think they were placed in an impossible, vulnerable position, and -- as I have said in my first report, I think -- I cannot see how that got past the scrutiny of the Postgraduate Deanery, who were responsible for supervising these young trainees.

THE CHAIRMAN: Thank you. Mr Stitt?

MR STITT: The purpose of open and shared medical expert reports in advance of the hearing is so that everybody can see not only the main points, but the thrust and the weight, of that particular expert's opinion and they can then be considered and, if necessary, responded to. It is, if I may say so, disappointing that this witness has used, in my respectful submission, two pejorative terms, the first being "afterthought", which I referred to earlier and I shan't go back to, and now the description of "ramshackle" without going into the details of the line of communication, which was the manner in which this was described. If that had been the witness's view, it's disappointing it's not in

a report so that it could be specifically addressed before being heard for the first time in testimony.

THE CHAIRMAN: I think that's an entirely unfair intervention. I think that what Mr Foster's doing is summarising in very concise and blunt terms the thrust of what is already in his report. I repeat again: he didn't say "afterthought"; he said "almost an afterthought". There's something of a difference, and this, I'm afraid again, Mr Stitt, is a running commentary on the evidence and I won't accept it.

MR STITT: It's not meant to be a running commentary on the evidence.

THE CHAIRMAN: Well, it is.

MR STITT: And I accept entirely the point about "almost an afterthought" --

THE CHAIRMAN: Well, why did you repeat it then? Because I corrected you the last time you were on your feet.

MR STITT: Turning to the question of adjectives such as "ramshackle", that's a specific term and it's unfortunate that it hasn't been used in the past in any report, and we've got lengthy reports.

THE CHAIRMAN: I'm sorry, so he has to stick rigidly to the language he used in his report or else you'll express concern? Frankly, that's ridiculous.

MR STITT: With respect, I disagree.

THE CHAIRMAN: Okay. I think it is fair, however, to say for Altnagelvin that one of the lessons that they learnt almost immediately after Raychel's death was that a referral to the JHOs was really inappropriate -- and that doesn't necessarily mean that it was inappropriate, but the new system they put into place with virtually immediate effect was to say that from now on the SHOs will be the first port of call and I presume that you would each endorse that action being taken on foot of the critical incident review?

MR FOSTER: It was excellent that instant action was taken, and I think it supports the premise that I made that the system of having the junior house officers was very unsatisfactory.

THE CHAIRMAN: Okay. Mr Orr, do you agree with that?

MR ORR: I agree.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Just for the record, Mr Chairman, the reference to the report in which Mr Foster says that to place pre-registration junior house officers in the position of being first on call for post-operative children was unsatisfactory and that he expressed surprise that the situation escaped the scrutiny for the Postgraduate Deanery is 223-002-011. We don't need to pull it up, but just so that people have it for

reference.

THE CHAIRMAN: Okay.

MS ANYADIKE-DANES: You have, both of you, talked about the extent to which the nurses would have been expected to either communicate with the junior doctors themselves when they attended or to -- preferably, I think in your view -- refer any departure from what was the expected plan or Raychel's development to Mr Zafar, who was the person who saw her during the ward round. This calls into question for both of you, really, the extent to which you would expect the nurses looking after Raychel to have begun to appreciate that something was amiss and perhaps not consistent with the plan that Mr Zafar seems to have discussed with the sister. I think in particular, Mr Foster, in your report at 223-002-019, when you express yourself as being at a loss as to why the nursing staff did not appreciate that this was certainly not the expected course of events after mild appendicitis. And that is, really, not becoming mobile, as you thought she might, not taking on oral fluids, as you thought she might, and so on.

Does that mean that you would have expected the paediatric nurses or the nurses on that ward to have recognised not just that she wasn't following the pathway that Mr Zafar had mentioned, but the

significance of the extent to which she was departing from it?

MR FOSTER: I have no doubt of that. This should have triggered a response of concern and a request, preferably directly to Mr Zafar, who would, from his evidence, have immediately come to the ward and begun some treatment and investigations. As soon as it became obvious that Raychel was not following the expected trajectory of recovery, the nurses should have triggered an intervention, yes. They must have seen many children recovering from appendicitis. They must have realised that the vast majority of them, unless they'd had a complex appendicectomy, would be getting better by lunchtime of the following day, and if that was the case, they should have immediately pressed the button for further activity and intervention.

Q. In terms of the extent to which she might be thought not to be following the expected trajectory, I am going to ask you what the indications for that might be. If one looks at the vomiting, there's a recorded vomit at 8 o'clock, bearing in mind what the chairman has said that it might not have been precisely 8 o'clock, but some time at the early start of the morning. There is another recorded vomit, which is described as a large vomit, that's on the fluid balance sheet at 10 o'clock,

and then there is another one after Dr Butler has erected the new IV bag at 1 o'clock in the afternoon. So that's three recorded vomits.

MR FOSTER: Yes.

Q. Can I ask you first, is there anything there that indicates Raychel is not following the expected trajectory, which I think was your term?

MR FOSTER: I think she should have been beginning to drink and wasn't. She was beginning, by lunchtime or soon after, to be unwell and to have gone quiet and still. This was not the expected clinical progress. Children do tend to very much mirror by their behaviour how they feel and something was not quite right here. And an experienced nurse, I believe, should have spotted this at or around this point.

Q. And can I then pause there and ask you, Mr Orr: these vomits and perhaps a presentation of her being maybe less active than she had been seen to be in the morning, do you think these are the observations that an experienced nurse should be recognising as perhaps indicating a departure from the trajectory?

MR ORR: I would have thought that an experienced nurse, after two or three vomits, would be contacting the surgical staff to say, "I'm not happy with this patient".

I'd make a comment that looking at the evidence that has been presented by the nursing staff, and indeed by senior surgical staff, there seems to be an acceptance that vomiting after appendicectomy is normal. I would put it to you that it is not normal. I wouldn't accept vomiting as normal. It does occur, but it is not a regular occurrence post-appendicectomy. So therefore, if you have a situation where the staff seem to accept that vomiting is normal, that then places them in a position where they're perhaps not as aware as they should be of the seriousness of repeated vomiting after what was the removal of a normal appendix, a routine appendicectomy. So yes, alarm bells should have been ringing by lunchtime, if not after lunch, when there was the third vomit. Our usual advice is that if a patient is vomiting on two occasions and it's unexpected, the medical staff should be contacted.

Q. Is it relevant for you what's in that vomit? The fact that she's vomiting partially-digested food, is that relevant to know?

MR ORR: It's relevant to know volume and content because it could be undigested food, it could be bile, it could be blood or, as we heard later on, it could be coffee grounds. So you are obviously interested in volume and content.

Q. And what is the significance of it containing undigested food at this remove from when she had her last meal and when she had her surgery?

MR ORR: It's significant only to the extent that that would be the food that had not passed beyond the stomach and was not undergoing a digestive process. It's not uncommon, post-operatively, for a patient to vomit their last meal.

Q. And in terms of the volume of it, it seems that at least two of those recorded vomits -- the one at 10 o'clock and the one at 1 o'clock -- the one at 10 o'clock is described as "large vomit" and the one at 1 o'clock is "plus plus". They both are probably judgments, but perhaps it's not quite as large as having described it as a large vomit. Is it significant for you to know that?

MR ORR: It would be enough to raise concerns because it would appear that there is then significant fluid loss through the vomit.

Q. I'll come, Mr Foster, to you in a moment. But following through this theme, if the experienced nurse had communicated that -- let's say to Mr Zafar because he's the person who had outlined what he thought her plan for the day would be -- that this had happened, what steps do you think ought to have been taken at that stage?

We're talking about 1 o'clock now.

MR ORR: First of all, he should have reviewed the patient, taken a history, if the parents were there, talked to the parents, talked to the nursing staff, examined the patient, again look at the charts, assess the situation. After three vomits, he should be drawing blood for urea and electrolytes, et cetera, and he should be actively considering replacing the vomitus, having assessed the volume, with a solution such as normal saline and then altering the maintenance fluids as well. So there would be quite a lot for him to consider and act on at that time.

Q. Mr Foster, if I turn now to you: three vomits characterised in that way and I think the other record is that there's only one apparent record of passing of urine and that first happens at 10 o'clock. That's the sort of observations and measurements that the nurses have. In all other respects, her vital signs appear to be normal. Is that a time at 1 o'clock when you think the nurses should have been contacting Mr Zafar?

MR FOSTER: Yes, I have no doubt of it.

Q. What should have been the result of that in your view?

MR FOSTER: I agree with Mr Orr. I'm sure Mr Zafar would have attended very quickly. His evidence would suggest that he was well aware of what he would need to do, and

that is examine Raychel, organise some bloods, change the fluid replacements, highly probably involve Mr Bhalla at this point, as the senior adviser, and possibly involve paediatrics too to offer some further suggestions as to how to further help the little girl.

Q. Why would you think that Mr Zafar ought to involve Mr Bhalla, who was the registrar?

MR FOSTER: Because this wasn't a usual situation because Mr Zafar, by his own admission, had not done a great deal of paediatrics, whereas we know Mr Bhalla had done, and I think it would be proper surgical common sense and good practice to mention to his senior what he was doing.

Q. If the nurses couldn't reach Mr Zafar or they could reach him, but he couldn't respond immediately because he was tied up, where do you think the onus lies? Is it for Mr Zafar to make a suggestion for who to go to next if they've reached him or should the nurses take it upon themselves to seek paediatric input or maybe even the registrar directly?

MR FOSTER: It could go either way. Mr Zafar could say, "I'm tied up, please ring Mr Bhalla". It would take him a moment, however tied up he was, for him to ring Mr Bhalla himself, but the nurses on a ward such as a paediatric ward with surgical children covered by

pre-registration junior house officers should have felt entirely free themselves to call a surgical registrar if they were concerned. So there should have been an openness there that permitted several different pathways.

Q. If I take it from what you say on the last point, if they can't reach Mr Zafar, then are you saying that the nurses should have been capable of taking the initiative and contacting another clinician?

MR FOSTER: Oh yes, yes, which Mr Bhalla, I'm sure, would have been expected them to so do.

THE CHAIRMAN: In other words, to summarise it, she's off the expected recovery route and you want to see why she's off the expected recovery route and get her back on to the expected recovery route as quickly as you can; is that it?

MR FOSTER: Oh yes. Quite an urgent process.

THE CHAIRMAN: Yes.

MS ANYADIKE-DANES: If I just come back to the vomiting point, that's an issue that a number of the clinicians have discussed and the experts too: post-operative nausea and vomiting and the incidence of that. I think, Mr Orr, you had said if she had vomited twice, that would be enough for you to expect some -- at least you'd expect the surgeons to be notified of that and then they

would take their course following review as to what they thought was appropriate to do about that. And I think, Mr Foster, you were pretty much in agreement with that.

Can you help us with this as surgeons? There is no real vomiting between 2 am and 8 am. Is that an expected course or does the vomiting afterwards indicate that something else is at play?

MR FOSTER: Raychel didn't arrive back in the ward until 1.30, if I recall correctly. 1.20 or something. The four hours was probably post-operative residual effects of her anaesthetic. And my understanding of post-operative nausea and vomiting is that there is usually a delay of a few hours before that starts. I do wonder if we weren't here seeing a phenomenon related to the Cyclimorph, where one of its effects is of paralysing the neurons in the wall of the intestine and this is why a side effect of opiates is constipation. I do wonder if this is, in part, not explaining the fact that her stomach had not emptied, as it would have been expected to do, of solid food the day before. After all, the medical team, probably quite rightly, on the Thursday starved Raychel for 6 hours preoperatively for an anaesthetic. But in those 6 hours, clearly we now realise her stomach had not emptied. So that might be guiding us just a little in the direction of what the

original pathology was here, some form of constipation with a functional disorder of the small intestine, stomach and so on.

Q. Mr Orr, do you have a view as to what might explain the fact that there's no vomiting noted until 8 o'clock in the morning?

MR ORR: It certainly appears that this would fit into the category of post-operative vomiting. Nursing staff are usually very good, in elective cases, of assessing which anaesthetists have been involved if there's problems with vomiting. Sometimes you'll get a pattern where more patients vomit and some less than others, but this was an emergency, and there could have been a greater risk of vomiting depending on what was prescribed by the anaesthetists immediately post-operatively. I stand to be corrected, but I'm not aware that she had ondansetron immediately post-operatively and that's a method of controlling post-operative vomiting.

And as has been said, she also had morphine, which has an emetic effect. So I think that explains the vomits over the first few hours as she recovers from her anaesthetic. She's then emptied her stomach and there is no more vomiting. But if she had been examined at that time, there may have been an indication -- or I'm quite sure there would be an indication -- that all was

not well.

Q. Does that mean -- well, maybe I'll ask you -- if some of this early vomiting, maybe the first two, can be associated with the effects that both of you have described and categorised perhaps as post-operative vomiting, in your view, does Raychel move from a period when that's what was happening to when the vomiting was being brought about by some other cause?

MR ORR: I think it'd be unusual to have anaesthetic effects greater than 6 to 12 hours -- an anaesthetist would be in a better position to comment on what would be expected, but I think that beyond 12 hours after the operation, I don't think you should be getting the anaesthetic effects or indeed the morphine causing the vomiting.

THE CHAIRMAN: So let me put two things you've said together. First of all, you don't accept that vomiting is a common or normal occurrence after a fairly incident-free appendicectomy, but if there is post-operative vomiting, you would expect that to have disappeared somewhere between 6 and 12 hours after the operation?

MR ORR: Yes, that's correct.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Mr Foster? Do you have a view on that?

MR FOSTER: No, I agree. I think this is a multi-factorial vomiting at this stage. It may be related to the original pathology. It might be related to opiate administration. It might well, at some point, be related to post-operative ileus in the distal small intestine, which would have been handled in its manipulation at the time of in surgery. And as the day progressed, it probably then became related to hyponatraemia and the changes in circulatory water volume that would happen after that.

Q. Let me turn now to you Mr Orr, because you said in your view what really ought to have happened is that at 1 o'clock the nurses ought to have notified somebody in the surgical team, hopefully Mr Zafar, he or his registrar should have come, they should have carried out a review of Raychel and that would have involved, amongst other things, looking at her fluid management regime, what she was on, and the rate at which it was being administered to her. Would that be a fair summary of what you were saying?

MR ORR: Yes.

Q. Does that mean, therefore, that you wouldn't have considered it appropriate to have used Solution No. 18 to replace losses? You might have been content for it to be used for maintenance purposes, but not for

replacement purposes, or have I misunderstood you?

MR ORR: It would be inappropriate for Solution No. 18 to be used for replacement purposes; for replacement you would use normal saline.

Q. In your experience, is that something that either was or should have been appreciated by the surgical team, even at a junior level, in 2001?

MR ORR: It should certainly have been appreciated by doctors who, at that time, had fellowships. They should have known that if you lose fluid from the stomach it has to be replaced by a solution such as normal saline.

Q. In fairness, Dr Scott-Jupp has not only given that as his evidence, and he says the practice of replacing gastric losses millilitre for millilitre with normal saline rather than hypotonic solutions was well-established long before 2001, at least in children. He says it's mentioned in standard textbooks used at the time and he referred to two of them. The reference for them is 222-005-008. The only thing of note in that is that they are standard textbooks. The first is Lecture Notes On General Surgery, and that's dated 1994. The second is the Sabiston Textbook of Surgery, dated 1997. Would you agree with him that that practice that you've just been describing is something that was well-known long before 2001?

MR ORR: It was well-known in 1974 when I sat my fellowship examination, at least I sat my primary examination in 1973 and it was well-known then. So yes, these are basic facts in relation to fluid balance in surgical patients.

Q. And you have said that somebody sitting their fellowship should have known that, but is that something that you would have expected the JHOs to have been taught, just as a fairly basic thing? If you are losing sodium-rich fluids replacing them with sodium-dilute fluids, you're not going to be in balance.

MR ORR: I would hope that there had been some emphasis in the curriculum on fluid balance, but I can't comment on the curriculum in place at that time.

Q. I understand. Mr Foster? In your experience is this something that should have been appreciated by JHOs and obviously those more senior in 2001?

MR FOSTER: Not necessarily JHOs. And to be fair to them ... But certainly I used to always teach the medical students about this because it was an important way of explaining the principles of fluid balance and water-containing rather than solute-containing fluids. Because I used to think it was something that wasn't taught well at medical school and I used to do that and they used to understand what I was talking about, but

it would be difficult to expect all the JHOs to understand that. Any grade above JHO should have most certainly known about vomiting and the need to replace electrolytes with electrolyte-containing fluids, hopefully normal saline. They should certainly have known about it.

Q. And so in your view, would it have been inappropriate to call a JHO if the nurses were concerned about the vomiting, unless they were calling the JHO to get in touch with their more senior colleague, if I can put it that way?

MR FOSTER: I absolutely agree. Continued vomiting should have triggered with the nurses the need for a surgical doctor to see Raychel. I'm quite sure Zafar, Makar, Bhalla or any of them would have realised what the problem was and would have taken action, the action that Mr Orr has mentioned earlier, of changing the fluids, organising electrolytes, by now of course they would probably have an electrolyte result back, which would be showing sodium falling down through the 120s.

Q. Let's move on to next medical intervention. So we've had Dr Butler coming at 12, we've had the vomit at 1 o'clock. According to the nurses, they would have wanted a doctor to have come earlier. In fact, according to them, they tried to get hold of a doctor

earlier, but the earliest that Dr Devlin could attend was 6 o'clock. So it seems that they may have appreciated that Raychel required some sort of medical intervention.

At 6 o'clock, Dr Devlin comes and he's asked -- or at least he's coming, so far as he's concerned, to administer an anti-emetic. By that time Raychel, has had four recorded vomits, but she's also had another vomit, which is not recorded, but which Dr Devlin sees at six o'clock. So he has witnessed one -- so there are five, if I can put it that way, vomits and there may have been some others that the family see that don't find their way onto her charts. But there's four on the charts and one that he himself sees.

Can I ask you as to what you think should have been his response when he comes? And maybe I'll start with you, Mr Orr. When he comes at 6 o'clock, what should he be doing?

MR ORR: We're dealing with an inexperienced JHO. I think this is the difficulty. He did not have the experience to recognise the potential problem with a patient who had vomited four or five times. He should have examined the patient which, as I understand it, he did do. He examined the patient, he assessed that she was stable, so that was reasonable, and he then prescribed the

anti-emetic. So apart from recognising the potential problems of four or five vomits, he acted appropriately by examining the patient, talking to her, and prescribing the anti-emetic.

Q. Do you think he should have contacted his SHO?

MR ORR: Ideally, ideally, yes.

THE CHAIRMAN: The problem was he didn't know enough to know what he was missing; is that --

MR ORR: And I don't know what the arrangements were with regard to communication with the SHO. Had he been told, "Look, if you have any concerns at all, you must contact me", so --

MS ANYADIKE-DANES: Sorry, is that something he should have been told?

MR ORR: Yes. Yes, in my report I've said that the junior house officers needed to be closely supervised and supported.

Q. I'm not sure that he actually did examine Raychel. I think in his evidence he thought it was unnecessary to examine her. Do I take it from your evidence that he should have examined her? Sorry, just to give the reference for that, I think it's 6 March at page 64 in the transcript. Do you think he should have done that?

MR ORR: If he'd been aware that a patient had vomited four

or five times, he should have examined her. But again, we have a very junior doctor who may not have been aware of the importance of the vomitus.

THE CHAIRMAN: Sorry, Mr Orr, if I take the view on the evidence which I've heard that he understood that, in effect, he was being called to the ward to administer an anti-emetic, then it might be harsh to criticise unduly a young doctor who at that time was rather inexperienced and maybe had not been given enough guidance by his seniors in what his role was. But it raises the huge issue about what the system was in Altnagelvin at that time.

MR ORR: Yes. Yes, that's what -- I was trying not to criticise the junior doctor, but emphasise his inexperience and the fact that this shows why junior house officers needed that close support from more senior staff.

MS ANYADIKE-DANES: If I move to you, Mr Foster. Dr Devlin arrives, he understands what the nurses want him to do is to administer an anti-emetic. He would assume, if he's administering an anti-emetic, the child is vomiting, otherwise it wouldn't have been necessary. But do you see that he should or ought to have done any more, asked any questions, in your view?

MR FOSTER: Yes, I've thought about this. He's a busy young

doctor. As I mentioned earlier, his primary duties would have been on the surgical adult wards.

THE CHAIRMAN: He's actually grabbed in passing because he wasn't the doctor who'd been bleeped earlier on. He happened to be on the ward for some other reason when the sister saw him and effectively diverted him to Raychel.

MR FOSTER: Yes, of course. He's a busy young doctor, he's inexperienced. A lot of the juniors, reading the statements of them, had very little contact -- although they were the first port of call for the nurses on the surgical wards, I believe it says in more than one statement that they had actually very little call to go there. He probably would not have been in contact with a vomiting post-operative case before and he would have thought, when he went to the ward, "Oh well, they've asked me to give an anti-emetic. That's already been prescribed by anaesthesia, so they know what to do and if they have that prescription, I'll go and I'll administer the ondansetron". Unfortunately, he didn't write a note that he did it, although he saw Raychel vomiting, he didn't understand the significance of what he was seeing and he didn't order some bloods. And we're on a very fine line here of whether this fell below the acceptable performance of a junior houseman.

He did what he was asked to do. Someone should have told him: this is not what little girls this long after an appendix do; please, Dr Devlin, can you ask your senior to see her? I think that's what should have happened.

Q. Do you think he should have told the nurses that he had witnessed a vomit so that that could be recorded?

MR FOSTER: It would be something he wouldn't know what to do. He probably assumed that it was going to be recorded somewhere, that it was probably going to get into the system. He probably -- that's a simple thing, as simple as I can say ... He probably wouldn't know. He would assume that if somebody vomited, the system was one where vomits were recorded.

THE CHAIRMAN: I think the problem why Ms Anyadike-Danes asked you is that another unfortunate aspect of this visit by Dr Devlin is that, when he saw Raychel, there was no nurse with him and that only complicates things, doesn't it? Because he's not getting the picture which might lead him to start asking questions, even if he doesn't know what the answers are.

MR FOSTER: It complicates things even more, sir, because of course there should have been a nurse with him. He's a surgical doctor, come to the ward, they happen to have grabbed him to administer the ondansetron. Of course

somebody should have gone to see the patient with the doctor. And that goes for almost every visit by a doctor to a ward, whatever rank of doctor, whatever patient, if the doctor has been asked to visit, a nurse should visit the patient with the doctor, even if only transiently.

MS ANYADIKE-DANES: Do you have a comment on that, Mr Orr?

MR ORR: I would agree with that, in an ideal world. Unfortunately, there has certainly been a trend over the last 10 to 15 years for nurses not always to accompany doctors to see patients because they have other nursing duties and they may be under considerable pressure on the ward. So what was normal 20 or 30 years ago is no longer standard practice. So yes, ideally, particularly if the doctor was going to administer an injection, presumably into the intravenous fluids, it would have been good practice to have a nurse there, but I can't criticise the nursing staff if they were under considerable pressure on the ward at that time.

Q. But may it have been a slightly different situation, if the nurse is the person who's responsible for bringing the doctor there, it's not part of Raychel's surgical team as we understand it, and so you've actually brought in a very junior doctor who has absolutely no knowledge of this patient? If you know you're doing that, is it

not incumbent on the nurse to at least give him the briefest of details on the circumstances in which you're asking him to administer this medication?

MR ORR: Yes, it would have been helpful for the nursing staff to fully appraise Dr Devlin of what was happening to Raychel at that time.

THE CHAIRMAN: And the fallback is that if she can't be there for some good reason when he is with Raychel, then he should do his best to speak to the nurse before he leaves the ward to make sure he's got the right picture and to make sure that anything that he has to add is communicated to the nurse.

MR ORR: That is the case, but --

THE CHAIRMAN: Is that ideal world stuff again?

MR ORR: Again, I think what is -- I've got to be careful that I'm not making too many assumptions, but I presume that he administered the ondansetron and said, "Fine, I've done what I've been asked to do", and then because he has other duties elsewhere, he does not have that discussion. Ideally, yes, he should have had a discussion about Raychel.

MS ANYADIKE-DANES: Yes. Should he, whether ideally or no, have made a note as to what he'd done and timed it? Particularly, possibly, as the nurse isn't there when he does it.

MR ORR: Again, I think I've referred to this in my report, that he didn't make a note, but that appeared to be the practice in the ward that that drug prescription or administration wasn't noted in the clinical notes, and that is a weakness.

Q. I was going to ask you about that. If that is a practice, so that the junior doctor is simply doing what he sees others do and what he understands is acceptable to do, from your point of view is that then a criticism that such a practice should be allowed to continue?

MR ORR: It is not good practice.

Q. Mr Foster?

MR FOSTER: It isn't.

MR STITT: May I interject on one relevant point? It has been assumed that Dr Devlin really didn't make any contact. That's your fallback point.

THE CHAIRMAN: Yes, I think he says he may have said something on his way out.

MR STITT: I'm quoting from his statement, not his evidence. It's two sentences:

"I didn't feel Raychel's vomiting was significant enough to contact more senior doctors. I did ask the nurse to re-contact the surgical doctor on call if the injection didn't work."

THE CHAIRMAN: We now know that if that was said, it was not said to a nurse who was with him when he was with Raychel; isn't that right?

MR STITT: Yes. My recollection of his evidence was that there wasn't a nurse with Raychel when he went to administer the anti-emetic.

THE CHAIRMAN: Right. So if his statement is correct and he did say to a nurse on his way out of the ward, "If there's anything further, contact me", then that was appropriate?

MR ORR: That's entirely appropriate, yes.

THE CHAIRMAN: But his written statement that he felt that her vomiting was not significant enough to contact more senior doctors is something, which by that point is 6 o'clock, you can't agree with?

MR ORR: There appears therefore to be contradictory statements.

THE CHAIRMAN: No, sorry. He has been called to give the anti-emetic. He says:

"I didn't feel that Raychel's vomiting was significant enough to contact more senior doctors."

MR ORR: At that time?

THE CHAIRMAN: Yes. That's at about 5.30 or 6 o'clock. That's something which you think, if that's what he felt, he felt it because of his inexperience and lack of

familiarity with paediatrics?

MR ORR: Also, had he been told that Raychel had vomited four or five times?

THE CHAIRMAN: Right.

MS ANYADIKE-DANES: Otherwise he might not have appreciated --

MR ORR: If he hadn't been told that, one couldn't criticise him.

Q. Mr Zafar's evidence was that he would have wanted to know definitely that an anti-emetic had been administered to Raychel at 6 o'clock and that she had vomited the number of times that she had and that she was still on the same IV fluids as when he saw her in the morning and that she was effectively not really tolerating anything by mouth and was not up and about. All those things he would have wanted to know because that would not have fitted with how he saw her recovery, if I can put it that way. And so if the junior doctor didn't appreciate the significance or wasn't told so that he could alert Mr Zafar, would you consider that there was some failure in the system in Altnagelvin that such a situation could arise?

MR ORR: It would appear from what you have said that there was a breakdown in communication between the house officer and the senior house officer. The senior house

officer clearly expected something and that didn't happen. So one has to ask what was the communication between the two of them earlier in the day?

Q. The likelihood is there wasn't any at all because he wasn't actually part of Raychel's team. And so this comes back to the point I think you were addressing before, as to how the communication flows do, in fact, work. Mr Zafar was clear: this is the trajectory I think; I want to know if there's a problem or I expect a senior nurse to be telling me if it isn't working out quite like that. The nurses for some reason are not contacting him directly; instead they are dealing with each development as it arises. The first issue is we need a new bag, the second issue is we need to stop the vomiting and they're dealing with things discretely in that way, using clinicians by which there is no continuity of care. So they don't communicate anything to Mr Zafar and that means that somebody more senior is not alerted to her condition and does not therefore have the opportunity to carry out the review that you actually would have wanted to be carried out some time in the middle afternoon, let alone by 6 o'clock.

So what I'm asking you is: if that happened, which it clearly did, do you see that as evidence of some sort of system failure or is it just unfortunate that on that

particular day the wrong call was made by certain individuals?

MR ORR: Well, clearly there was a failure in communication, so you're then going back from that, say, what was the communication system in place in the hospital at that time between the house officers and the senior house officers and registrars. I don't know the answer to that. But there should be, in every surgical ward, an ease of communication, both vertically up the surgical hierarchy and latterly into the nursing staff. And that should occur at any level. There should be no difficulty with a senior nurse contacting a registrar or indeed a senior nurse contacting a consultant if required.

Q. Yes. Mr Foster, if I ask you this: do you see those events as I've just described them at around 6 o'clock of evidence of any system failure or not?

MR FOSTER: Yes, it is, because this is the sort of situation that is at risk of arising when very inexperienced doctors are the first level on the ward. Dr Devlin said he didn't consider her vomiting significant. I can't really see how a pre-registration houseman seeing a child with post-operative vomiting can come to a decision as to whether vomiting is significant or not. He gave the drug and went back to his job and

didn't even think of letting Mr Zafar know. So the system failed at that point. The ward was being run by experienced nurses who would, I hope, have recognised the significance of continued vomiting by the early evening. I don't understand why they didn't then themselves contact Mr Zafar or insist that Dr Devlin did. In a situation that they were put into by junior housemen being first on call, the nurses were the safety net.

THE CHAIRMAN: Sorry, Mr Foster, I think the nurses who have given evidence have been insistent that they regarded this as vomiting which was not out of the ordinary. I think Mr Orr's already commented on this; do I gather that you find that difficult to accept?

MR FOSTER: Oh yes, this is a girl who had a straightforward removal of a minimally, at most, inflamed appendix, and by now we're into the early evening. It was certainly very much out of the ordinary, sir.

THE CHAIRMAN: Thank you.

MR CAMPBELL: Mr Chairman, the issue of how long the post-operative nausea and vomiting could or should have gone on for is a matter of much debate. Perhaps it's useful to throw into the mix an opinion expressed by Mr Simon Haynes. For convenience, I'll refer to it from a consolidated report, which appears at 312-002-014. In

paragraph 5.3.1, reference is made to the fact that he states as follows:

"PONV usually settles within the first 6 hours after surgery, but may be troublesome for up to 24 hours."

And I know that elsewhere in the papers I have seen reference to post-operative nausea and vomiting lasting as much as 48 hours, so opinions do vary.

THE CHAIRMAN: That's correct, they do vary, but the starting point here, or a starting point, is Mr Orr says he wouldn't expect post-operative vomiting after Raychel's operation at all. Let's take that as one point, but since Dr Haynes is coming tomorrow to give evidence -- and I think you know from the report that he's a paediatric anaesthetist. He says that it usually settles within the first 6 hours, but may be troublesome for 24 hours. Do you have a comment on that?

MR ORR: If I can comment, chairman, I wouldn't say that I wouldn't expect vomiting at all. What I would say is there seems to have been an assumption that post-operative vomiting after a routine appendicectomy is common. It occurs, but it is not common. I would only expect it to occur in a small percentage of patients and again, in most of these patients, for it to be self-limiting within a fairly short period of time.

MS ANYADIKE-DANES: Mr Chairman, Dr Haynes is going to be

here tomorrow, but now that we're on his view, in his report at 220-003-013, which we don't need to pull up, he says:

"In my experience, post-operative nausea and vomiting attributable to anaesthesia is usually a phenomenon which rarely continues more than 12 hours post-operatively."

So he then cites a relatively recent review, which says that:

"It may be troublesome as a secondary phenomenon up to 24 to 48 hours following anaesthesia."

By which, although he will explain that himself, I take it to mean that something else is going on. But as to post-operative vomiting itself, he was of the view that that rarely continues on past 12 hours, which I think roughly accorded with the time that Mr Orr gave earlier.

THE CHAIRMAN: The document which is on screen for reference is the adviser's summary report, isn't it?

MR ORR: That's right.

THE CHAIRMAN: Okay. It's 4.10, the stenographer's been going from 2 o'clock. We're on the last lap, but we'll take a break for 10 minutes.

MR STITT: May I make a final point in ease of the stenographer and the witnesses? Apropos what the

statement of Dr Devlin had said, I had interjected once before on this and I note also, and if I may quote one sentence and it's this:

"When I saw Raychel, she was vomiting, she did not appear to be dehydrated or distressed. I felt it was reasonable for a child to vomit within 24 hours of surgery."

I appreciate the witnesses' views on the 24 hours, but my point, which I would maybe like to put to the witnesses, is that he did form some form of assessment that she wasn't dehydrated or distressed. Rightly or wrongly, that was the view he came to.

THE CHAIRMAN: Can you comment on that?

MR FOSTER: Well, in all truth, I don't think a doctor of Dr Devlin's seniority was senior or experienced enough to make an assessment of dehydration or distress in a young child.

THE CHAIRMAN: Mr Orr?

MR ORR: He assessed the patient and that's what you'd expect from a junior house officer. We could argue that his assessment was incorrect, but he assessed the patient, came to a view, and acted accordingly.

MS ANYADIKE-DANES: You had talked very much about this close supervision that has to happen between the JHO and his more senior colleagues, the SHO probably. If the

JHO has found himself in a position where he is actually making an assessment, so he's exercised his judgment in that way, is that something that you would have expected him, just for the purposes of keeping his senior in the loop, if you like, to have communicated the fact of seeing the patient, "This is what I've done, in my view she's not dehydrated", just to allow his senior colleague to know what he has done and to satisfy himself that what he has done accorded with appropriate practice?

MR ORR: Yes, but that works both ways. Mr Zafar should have communicated with him early on in the day to say, "Look, if you're called to the surgical paediatric ward to see a surgical patient, I would like to know your findings".

THE CHAIRMAN: And the more important communication then is that it's 6 o'clock and she's still on full IV fluids and not taking anything orally.

MS ANYADIKE-DANES: Thank you very much.

THE CHAIRMAN: Ten minutes.

(4.15 pm)

(A short break)

(4.25 pm)

(Delay in proceedings)

(4.33 pm)

MS ANYADIKE-DANES: I wonder if I could go back to a matter? I've been asked to draw this matter to your attention. Extracts were taken out of Dr Devlin's evidence -- if we can put up his witness statement. This is all about who he may have discussed Raychel with. It's his witness statement, 027/2, page 7. If you see at (u), the answer to (u):

"Did you examine Raychel? I did not examine Raychel as I didn't feel it was necessary. I felt the vomiting was consistent with her recent operation and anaesthetic and that the request by the nurse to give an anti-emetic was reasonable."

And this, I think, is your point, Mr Orr: he has exercised his judgment. Mr Foster's position was whether he was sufficiently qualified to exercise a judgment like that and then, from the point of view of the system and communications, I think you're both of the view that it's a matter of his training whether he was taught that if he was going to form a view, then it's a view that he should have communicated to his more senior colleague, who could then have taken their own view as to whether that was appropriate and whether any further steps had to be taken.

MR ORR: And the senior colleague earlier should have alerted him to the fact that he wanted to be notified

about particular paediatric patients.
Q. The difficulty about that is in the circumstances that happened. Mr Zafar couldn't have alerted Dr Devlin to that because nobody thought that Dr Devlin would be asked in the first place. But what he could have done is what Mr Foster pointed out, he could have communicated to the nurses what he expected to happen so if they had brought in any JHO, they would know that they're either communicating that fact to the JHO or they themselves are taking the initiative and contacting Mr Zafar.
But it may identify -- well, it's a matter for you to comment -- a weakness in the system that you can have different doctors being brought in, who haven't necessarily been appraised of what the SHO's view of Raychel's care is or should be.
MR ORR: Yes. It's a weakness in the system.
Q. Thank you. I wonder now if I could finalise this element on Dr Devlin's attendance. I had referred to Mr Zafar's evidence, which is that if a JHO was required to come to administer an anti-emetic at 6 o'clock, he would have wanted to know that. He's not particularly specific as to who should tell him, but it's a piece of information he would want to know because, had he known that, his view was he would have come and conducted

a full review, he would have sent bloods off for testing, he would then have looked at her fluid management regime. And he would also, according to him, have notified his senior, the registrar, that that was happening, because that would have been completely unexpected from his point of view, given Raychel's presentation in the morning. So that's what he thought.
I asked a similar question to Mr Bhalla, who was the registrar, and in evidence his view was that the JHOs should in those circumstances have contacted the SHO and then matters would have unfolded hopefully in the way that Mr Zafar identified. So although you, Mr Orr, don't necessarily put the onus on Dr Devlin to have contacted Mr Zafar unless he was specifically told that or had that communicated to him by the nurse, Mr Bhalla is clear that Dr Devlin should have contacted the SHO. Does that affect your view or are you still of the view that you wouldn't put that onus on him?
MR ORR: The communication system should have been such that if that was the expectation of the registrars that they should be contacted, then the house officers, even though a house officer who was, in a way, caught in chance on the ward, should have been aware that that was required of him. In other words, there should have been some discussion previously as to what was expected of

the house officers in the performance of their duties. In other words, induction, et cetera.
Q. Yes. So you mean generally, not necessarily from case to case, but that is one of the things that they should have been taught, that if you're forming any view or doing anything, you really need to run that by your SHO, if that was the system that Mr Bhalla and Mr Zafar were expecting?
MR ORR: Yes, it has to be clear to the house officers what is expected of them by their immediate seniors and above.
MR FOSTER: This is exactly the sort of situation where a proper post-take round would have avoided -- in that ideally Mr Bhalla, the registrar for the day, Zafar the SHO, and one of the housemen would have gone round the ward and between them have seen the little girl and instead of Mr Zafar saying, "Let me know if she goes off or deteriorates", they could have formed a proper plan informally as to how to communicate with each other if any problem arose on the ward and if they had had a nurse with them on the ward round, all that would have been communicated across the line and up and down the line. This is the whole reason why post-take rounds are important.
Q. Thank you. I want to put forward a point that

Sister Millar made, and she did it in evidence on 1 March 2013, page 58. We don't have to pull it up. But the reason I put that to you is because during the course of a discussion as to how matters were managed on that ward, both of you, from time to time, have referred to the fact that these were experienced nurses and they were capable of and should have exercised their own judgment as to when to notify the surgical team and perhaps when to notify more senior members of that surgical team. And I wonder if you might like to comment on this view expressed by Sister Millar. She says:
"I thought it was totally unfair that the nurses had such responsibility for the surgical children. I felt it was unfair. I felt that we had to be the lead all the time in looking after the surgical children. We are nurses, we're not doctors, and whilst we do our best I don't think we should be prompting doctors. We would now maybe, but 12 years ago, I don't think we should be telling a doctor to do electrolytes. It's different now, we're more knowledgable, we've had quite a bit of education, but in those days, really, we were leading the care, I feel, in looking after children."
And that's a point that she took issue with. Can you offer any comment on that?

MR ORR: My comment would be that she's clearly expressing the situation that was in place at that time. So she is saying that it was unfair and, if it was unfair, then we have to balance that against there appeared to be some kind of expectation that the nurses would get involved. So again, there's a lack of clarity about this interface between the nursing staff and the medical staff. And to say the least, that's unfortunate.

Q. And Mr Foster?

THE CHAIRMAN: Sorry, just to add to that, Sister Millar also said that this issue about the unavailability of the surgeons, because they were working elsewhere, had been raised by her before this and had been pointed up as a problem on the ward. Does this really lead back into the point that you've both made about how, in a hospital such as this, it would have been far better if there had been a system that the paediatricians led on the care of all the patients so that somebody like Sister Millar wasn't left in frustration, complaining about the absence of surgeons?

MR ORR: Certainly, obviously, using the retrospectoscope, it sounds as if that would have been a better solution because it sounds as if the nursing staff felt they were exposed and that would have been unacceptable.

MR FOSTER: I do wonder why -- the nursing staff would

obviously have known much more closely the paediatricians. They must surely have expressed this frustration to their paediatric colleagues at the time because I can appreciate their upset, trying to find a surgeon in a busy hospital, particularly if through some flaw in the system the surgeon was a pre-registration house officer. But I don't understand why the nursing staff had not, in some informal -- and if necessary a more formal -- sort of way, had not expressed their concerns to their paediatric colleagues, who could have passed them on at consultant level. The opportunity was surely there.

MS ANYADIKE-DANES: Yes. The concern that the nurses expressed was possibly threefold really. One, at any given time when you need surgical input, you can't always obtain or have come to the ward a surgeon when you need one. That was one. And you've seen that and you've commented on it because to some extent it happened with Raychel. The other point they were making is, leaving aside that, they were pointing out the fact that the medical patients had a different level of care largely because the paediatricians were there. They paid attention to their electrolyte testing and their monitoring of their IV fluids and so that part of the assessment of children was being carried out by the

paediatricians, whereas they felt that when it came to the surgical children, because the surgeons were less available, if you like, that role, which they regarded as a medical role, pretty much fell to them, or at least might fall to them. So that was another concern they had. And then the third concern they had, which is to do with the junior house officers, which was a grade that really only happened for the surgical team, was that they expected them, when they were called, to carry out their own assessment of the child. They did not expect their assessment to be a substitute for the surgical member, however junior they were, for that doctor's own assessment. They regarded them as doctors, even if junior, and they should carry out their own assessment, and they have in one way or another said that in either their witness statements or in evidence. They might tell them what they thought, "This child needs an anti-emetic", but it was for the doctor to carry out an assessment and form his or her view of what that child needed and not simply rely on them to have done that task for them, if I can put it that way.

So those seem to be the three things that the nurses were expressing some concern about as to how the care of surgical children was managed on Ward 6. I don't know if that's something that you have had experience with in

mixed wards in district hospitals in either of your careers, if I can put it that way.

MR FOSTER: Nurses are quite a powerful group in paediatrics. When I was a registrar in a paediatric hospital, I was always terrified of the senior nurses, who I'm sure knew far more paediatrics than I did. I can't understand why they feel a junior house officer is a doctor more qualified to give an opinion than an experienced paediatric nurse. I don't know how that feeling had come about. It just seems to me that there was some dysfunction and lack of clarity between them all, lack of the feeling that they could communicate clearly between nurses and doctors, nurses and surgical doctors in particular, and nurses to nurses, so they couldn't establish themselves into a consensus group to go along as a group and say, "Look, this is our problem, can something be done to sort it out?". I feel so sorry for them that they felt this way.

Q. Mr Orr?

MR ORR: I would agree with that. From what has been said it sounds as if the senior nursing staff should have had a discussion with the consultants, both medical paediatric and general surgery, to try and resolve this issue, because it is a serious issue. So I've no doubt that discussion has subsequently taken place, but it's

unfortunate that it hadn't occurred at the time when they had raised concerns.

Q. Or if it had occurred, the matter hadn't been resolved.

MR ORR: Yes.

Q. I want now to move on to Dr Curran's attendance. He comes at 10 o'clock. Dr Devlin has administered the anti-emetic, it hasn't been entirely successful in the sense that there is a further recorded vomit at 9 o'clock. There are some other vomits that don't find their way on to the fluid balance sheet, if I can put it that way. The 9 o'clock vomit is described as including coffee grounds, so it's on the fluid balance sheet as "vomiting coffee grounds, plus plus". And that seems to be the first time that that is noted. And then at 10 o'clock there are small amounts, maybe three of them, vomited at 10 o'clock. So that anti-emetic has not been successful. Dr Curran attends to administer a further anti-emetic. That's what the nurses want to have happen.

I wonder if I can first ask you, when Dr Curran does attend -- maybe if I start with you, Mr Foster -- what do you think he should have done?

MR FOSTER: By this time, there had been a cascade of problems through the day. This was the end of the day and the vomiting had clearly got more serious. My

understanding is that the fluid balance sheet was available to him where he could have read the words "coffee grounds", and he should certainly have referred to it, however junior. I also understand that it is likely that one of the nurses told him there was coffee grounds; am I right in that?

Q. No, I don't think --

THE CHAIRMAN: It's disputed.

MS ANYADIKE-DANES: His evidence is, had he been told about coffee grounds, to him that would have been a red flag and he would have notified the SHO about that.

MR FOSTER: Well, I think at this point in time, I think the doctor called, however junior, should have been a little bit more proactive.

Q. If I pause there and ask you why. Because I think when we were dealing with Dr Devlin, I'm not sure that you necessarily thought he ought to be looking at the charts. Why is it you think at this time that Dr Curran ought to be at least looking at the fluid balance chart?

MR FOSTER: Because I think someone should have caught on to the fact that vomiting had been frequent all day and if it was coming to this sort of time of the day, he should have looked at it and seen how much vomit there was.

As a side issue, of course, the fluid balance chart should have been shown to him. Then the coffee grounds

would have become apparent as this is a serious symptom. And he should have acted on that and called his senior without delay. And I think one has to escalate it from Dr Devlin to Dr Curran because I think at Dr Curran's time of intervention, a brief reference to the charts and, of course, to be told that coffee grounds had been vomited -- and it's to be regretted that apparently this didn't happen. But this was the last medical intervention when something could have been done to reverse this situation and it's a great pity that this young doctor didn't just take it a little further. Yes, I believe he should have communicated up the line to Mr Zafar, who would have urgently attended.

Q. You mean, just to be clear about it, the last intervention before her seizure?

MR FOSTER: Yes. I think this was the last intervention where something could have been done to diagnose the hyponatraemia. The sodium would have been seriously low by this time, this was the last time that something could be done to seriously reverse this situation.

MR CAMPBELL: Mr Chairman, just in fairness to Nurse Gilchrist, I think from recollection of her evidence, she was unclear as to whether she had mentioned the coffee grounds to Dr Curran or not.

THE CHAIRMAN: Yes. Thank you.

MS ANYADIKE-DANES: If I can just continue with you for a little bit in this way, Mr Foster. If all that Dr Curran was told was, "Look, here's Raychel, she had her surgery roughly 24 hours ago and she's vomiting and I would like an anti-emetic to stop that, it's unpleasant and uncomfortable for her", let's assume that's all he was told. What do you think he ought to have done in those circumstances?

MR FOSTER: Well, I've already said he should have looked at the charts. He should have examined her and he would have seen a drowsy, sleepy girl, who was plainly not well. He may not as a junior doctor have known exactly why, but he should have seen a little girl who wasn't what you'd expect to see at this point after an appendix operation. I do believe so at this point. He's a doctor, he's had a medical training, here was an unwell little patient. And if he says he thought she was well, then I think that was a clinical error.

Q. And do you think he should have done that because of the sheer passage of time from her surgery when she's vomiting?

MR FOSTER: Yes.

Q. Is that enough to have prompted him to have a look at the charts to try and understand what's happening?

MR FOSTER: I do think so. This has now gone on and on for

not far off 24 hours. But it's not just Dr Curran. I think between them Dr Curran and the nursing staff should have really been alarmed at this point.

Q. And does it make it any more serious for you if he had learnt that she had a headache and that her parents had been concerned about her demeanour? She had been extremely listless -- and not just her parents, but there are others in the ward, her friends and others in the ward who had noted the change in her demeanour.

MR FOSTER: Of course it should.

Q. Is that the sort of thing that should have been explored or communicated with them?

MR FOSTER: These are alarm bells here. This is a problem. This is not normal. The nurses must surely have realised that. Between the nurses and Dr Curran, there should have been urgent collaboration and the phone should have been picked up to the SHO as soon as possible.

Q. Sorry, Mr Orr, can I ask you then: if Dr Curran arrives at this time, very nearly 24 hours after surgery, the child is vomiting, well, he did not know, I don't think, that she had had a previous anti-emetic, but he knows that an anti-emetic is being required, so she is obviously vomiting. What do you think he should have done at that stage?

MR ORR: Before I answer that, I'd like to be reminded about how much information he was given about the patient at that time.

Q. I don't think that's entirely clear because I think there's a difference in the evidence.

THE CHAIRMAN: He says, for instance, that he didn't know about the coffee-ground vomiting. The nurse thinks she may have told him but she's not sure; is that right?

MR CAMPBELL: She not clear as to the content of that conversation. She couldn't recall the details.

THE CHAIRMAN: At the end of the bed there were only a few pages. The main records were kept elsewhere and at the end of the bed there were effectively about four or five pages: fluid balance chart, observations chart, and the kardex. And if you could build this into the answer because, from when he arrives at Raychel's bedside, there were only three or four pages of records for him to look at.

MR ORR: This again is a very junior, very inexperienced doctor who, as I understand it, this is the first time he has seen Raychel.

THE CHAIRMAN: It is, which is a problem.

MR ORR: So faced with that, he would have to try and gather as much information as was available to him through the charts and from the nursing staff. He then assesses the

patient and decides to proceed to prescribe another anti-emetic, perhaps being unaware that she earlier on had ondansetron.

THE CHAIRMAN: Yes, and with the anti-emetic having effectively been left out for him to give.

MR ORR: Yes. So we have a scenario again where you've got this very experienced doctor summoned, he does what's been asked of him. Yes, in retrospect, sitting here looking at all the facts that we've been given, yes, he should have assessed the patient thoroughly, taken a history, been alerted to the issues of headache and lassitude and contacted his senior. But again, we're talking about ideal circumstances and it's quite possible that these ideal circumstances were not there and he was an inexperienced doctor and therefore, sadly, he acted inappropriately.

MS ANYADIKE-DANES: Well, if one leaves out whether he should have known to examine her and all those sorts of details and focus on the thing that he says he would have been concerned about, he says he would definitely have been concerned had he known there were coffee-ground vomits. If, as the chairman has just described to you, there wasn't much in the way of charts kept with the bed, but the one thing that is there is the fluid balance chart. What I'm trying to ask if you

can help us with is whether you think, in those circumstances, at the very least, he should have had a look at it?

MR ORR: Yes, he should.

Q. And if he had seen it, then of course he would have seen the coffee-ground vomiting. And his view is, had he known about coffee-ground vomiting, rightly or wrongly, in his mind, that's a red flag and that means I need to contact my SHO.

MR ORR: Yes. So he's said that himself and I would agree that coffee grounds is a real alert and you need to contact somebody more senior to discuss how you're going to manage this patient.

Q. So had he not known to do anything else, if he'd simply done that simple task, which you say would have been appropriate for him to do, which is to look at the fluid balance sheet, that might have set off a whole chain of circumstances that would have perhaps culminated in a more senior member of the surgical team seeing Raychel at that stage?

MR ORR: Yes, it should have.

Q. And can I ask you a little bit about coffee-ground vomiting because there's been some evidence about that, not all of it entirely consistent.

THE CHAIRMAN: If we get the short version: you think it is

a real alert, was your term.
MR ORR: Yes, but it can occur with even a small amount of gastric bleeding into the stomach. You can get a small amount of bleeding which results in a coffee-ground vomit. It doesn't necessarily mean that the patient is critically ill, but it does alert you to the fact that something unusual and abnormal is happening.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: If you see it after that period of time of vomiting, does that help you to form the view that perhaps something really unusual is happening?
MR ORR: I would be concerned with a patient who's now almost 24 hours post-op and has developed coffee-ground vomitus.
Q. The reason I put it in that way, Mr Orr, is because -- I was coming on to ask you what the causes of it were but actually you started to answer that question. And one of the things that we heard was that you can get traces of blood in the vomit from all sorts of things. It might have been when they put the endotracheal tube down, a little bit of trauma caused by that, but some of those causes as I understand it from the evidence, you'd have expected to see traces of blood in the vomiting earlier if it had been anything to do with that.
So the other alternatives are it could have been as

a product or as a result of the strenuous vomiting or prolonged vomiting, that might have produced a Mallory-Weiss tear or something of that sort. And even if that in and of itself wasn't hugely serious in terms of her condition, it's the fact that it indicated that she had been vomiting in that strenuous way for some time, and that's the thing that ought to have been of concern. That's the evidence we've heard to date. Can you comment on that?
MR ORR: It's difficult to know what an inexperienced doctor would think about the causation of coffee grounds other than that there's been some bleeding in the stomach and we've therefore got coffee-ground vomitus. A more senior doctor would go through a differential diagnosis and I think at the top of that would be a stress reaction with tiny ulcers -- not fully-developed ulcers, but a stress bleed with coffee grounds as a result.
Q. You mean from the action of vomiting?
MR ORR: Either from the vomiting or from the general stress of Raychel's condition at that time if she was, as she was undoubtedly then, hyponatraemic, developing cerebral oedema, there would be a stress reaction and that would be reflected in a gastric erosion and coffee grounds.
Q. And Mr Foster, in your view, firstly, is coffee-ground vomiting a significant thing that should warrant

communication with the SHO?
MR FOSTER: Yes, because I'm sure in a child it signifies prolonged and repetitive vomiting over a period of time. The abundantly most likely reason for it is an injury to the gastric mucosa, causing some bleeding -- it doesn't have to be much -- that gets into the gastric acid in the stomach and turns black. And that tends to irritate the stomach even more and it comes up in the vomit. It signifies prolonged and repetitive vomiting and, of course, some action should be taken.
Q. Well, in fairness, I had indicated that there were different views about that. So I should put to you Dr Scott-Jupp's view. We don't need to pull it up, but it's 222-004-012 at 5(e). He says that in his view coffee grounds are not in themselves diagnostic of severe or prolonged vomiting, and he says that he has:
"... not infrequently seen coffee grounds produced in children who have vomited only two or three times previously with a mild vomiting illness. In this case, it is the frequency and severity of the vomiting which is critical, not the occurrence of coffee grounds."
So that was his concern.
MR FOSTER: I'm not sure I agree with that. From the point of view of a surgical patient, I think this is different. I don't know, he may be talking about

medical children. I've always been cynical about coffee grounds in elderly patients. I was forever being called to the geriatric wards for coffee grounds and it really rarely was. It was a stasis of gastric juice in the stomach, the very opposite of persistent vomiting.
I think in a child who had been vomiting all day, coffee grounds was a significant finding that was yet another alarm bell ringing, which meant action.
Q. In terms of what Dr Curran should have done, I think certainly Mr Orr has said, well, he should have looked at his notes at the very least. When he saw the coffee grounds, then he should have notified his senior.
I think you, Mr Foster, have also thought he should, at least, have notified his senior. The nurses in their evidence have said what they would have expected him to do and Staff Nurse Noble -- we don't need to pull it up, but her evidence is on 27 February at page 121 -- she thinks that:
"... Dr Curran should have carried out a full assessment when he came before giving the anti-emetic and reporting his assessment to the nurses."
So although their view was what was required was an anti-emetic, in Staff Nurse Noble's mind, Dr Curran nonetheless should have carried out a full assessment.
Staff Nurse Gilchrist, in her evidence on 11 March

of this year, page 89, said she thought it would be part of his role to look at the charts and examine Raychel and she goes on to say that she thought he would make an assessment and determine whether she, Raychel, needed more senior input. Can you express a view on the nurses' position?

MR FOSTER: They're saying what would be ideal, but the evidence was already there without an assessment. I'm not sure what they mean by "an assessment". The assessment is in the charts, the assessment is in the appearance of the little girl, and it's in the history throughout the day. That's the assessment. I'm not sure a physical examination would add a great deal to what is already obvious. And I think the nurses and Dr Curran together were clearly concerned and they should have between them, if you like, as a collective decision, made sure Mr Zafar was contacted and investigations and treatment urgently commenced because I think this was the last opportunity to reverse this problem.

Q. In your view, by that time, would you have characterised Raychel's vomiting as severe and prolonged? Can I ask you that first, Mr Foster?

MR FOSTER: Yes.

Q. Mr Orr?

MR ORR: I would agree. We're almost 24 hours post-operative and she's had a large number of vomits, approximately eight, so that is severe and prolonged.

Q. Is that a view that you think should have been reached in 2001?

MR ORR: Yes.

Q. Dr Sumner, as you know, or you may not know --

THE CHAIRMAN: Sorry, you don't need that.

MS ANYADIKE-DANES: Thank you.

If I can then go on to having contacted his senior, it may be that you might not have expected Dr Curran to have done very much more than perhaps read the fluid balance charts, noted the coffee-ground vomiting, maybe had some sort of discussion with the nurse, but in any event contacted his senior. Would you have expected him to have administered the anti-emetic as well, Mr Orr?

MR ORR: I would have expected him after all of that to have examined the patient, then discussed it with his senior and then, if there had been a discussion, give the anti-emetic. But it sounds as if he was almost presented with this anti-emetic to give, already drawn up.

Q. Yes.

MR ORR: A difficult situation for a young doctor.

Q. Assuming that he had, at the very least, got in touch

with his senior colleague Mr Zafar or an SHO, what do you think would have been appropriate to have happened at that stage once the SHO is aware of the situation?

THE CHAIRMAN: Sorry, I think you've already told me what you would have expected to have happened at 6 o'clock when you think the SHO might have been called.

Can I take it that you would have assumed effectively the same course of action at about 10 o'clock if they had been called at that time, though perhaps with a greater degree of urgency because the position had deteriorated?

MR ORR: Exactly.

THE CHAIRMAN: Yes, thank you.

MS ANYADIKE-DANES: Are you of similar mind, Mr Foster?

MR FOSTER: Yes.

Q. What Mr Bhalla says he would have done is that if he had been contacted as the registrar -- and Mr Zafar's evidence was he would have contacted Mr Bhalla -- Mr Bhalla says that he would have come and made sure that the blood tests were taken for electrolytes and he would have stayed there on the ward or about so that he could become more closely involved in the management of Raychel's treatment and certainly until those results came back and he could see the way forward. Is that

something that you would have regarded as appropriate, Mr Foster?

MR FOSTER: Absolutely. I have no doubt that Mr Bhalla would have acted with great urgency and would have done exactly as he has said.

Q. Mr Orr, would that have been appropriate in your view?

MR ORR: I would have hoped that that's what would have happened.

Q. At any stage so far, do you think that the consultant, whether it be the consultant on call or whether it be Raychel's consultant, ought to have been notified of her deterioration?

MR ORR: I would have expected, if Mr Bhalla had come to the ward, assessed the patient along with the junior house officer, at that stage he would have undoubtedly been concerned and he should then have informed the consultant.

Q. When you say "the consultant", do you mean whichever was the surgical consultant on call, or do you mean Raychel's consultant, Mr Gilliland?

MR ORR: I would expect it would be the consultant on call.

Q. And Mr Foster?

MR FOSTER: I agree, Mr Bhalla would have got involved. He's a very experienced surgeon and, in a proper training scheme which led to a consultant exit

qualification, he would have been a consultant. And I suspect Mr Bhalla would have been quite capable of dealing with this situation a long way and to the point where the hyponatraemia might have been reversed. But this was a serious event in a little girl and, yes, at some point in all this, even if it was only to advise a consultant on call, he should have done so.

Q. There's a matter that I omitted and I apologise for it. One of the things that I wanted to ask you about is whether you thought Dr Curran should have made any entry into Raychel's notes. Mr Foster?

MR FOSTER: I think this was quite a serious event now and yes, he should have written in the notes, something like "prolonged and severe vomiting all day" or "vomiting all day" and expressed his concern in the clinical file and the next decision, of course, should have been to take the bloods and call his senior.

Q. Mr Orr?

MR ORR: He didn't put anything in the notes and I think in my report I said that appeared to reflect again custom and practice in that ward, which is unfortunate because at this stage things were developing and there should have been some comment made in the notes.

Q. Does that mean if that's how he was being taught, you regard that as poor practice?

MR ORR: Yes.

Q. Thank you.

MR ORR: Is it appropriate I can make another point? We may come on to this, but there is something missing from this in terms of how the patients on the ward are managed and how they are observed. It would be ideal if there was a second ward round during the day on a children's ward. It is pretty well standard practice on most surgical and medical paediatric units. I'm sure many other general surgical units, when they're looking after children, make sure that there is an evening ward round to check on all the patients before everyone retires for the night, if they can retire for the night. That is something, again, which may have resulted in an intervention at an earlier stage.

THE CHAIRMAN: In 2001, how common would a second ward round have been on a paediatric ward in a hospital such as Altnagelvin?

MR ORR: I can't comment specifically about Altnagelvin, but certainly in other units that I'm aware of second ward rounds by someone of experience -- and it would normally be the registrar -- would do a ward round of all their surgical patients.

MS ANYADIKE-DANES: Does that provide the same function as perhaps an evening handover so that the daytime staff

are passing on the information as to what has happened with the care of the child to the incoming staff, or would that be a separate thing?

MR ORR: I think they're separate, but they would achieve the same end, that the patient had been reviewed and everyone who was on for the night was aware of patients' statuses and what their condition was and if there were any concerns about individual patients.

Q. Mr Foster?

MR FOSTER: Well, I can't remember that far back about evening rounds. It's certainly done these days. But if they were anticipating doing something like that, neither Mr Bhalla nor Mr Zafar knew by this time that anything was amiss. Whether they would have taken it on themselves to have trekked around the hospital to see someone they didn't know from the morning and to check on her, I'm not sure. I don't think it would have been normal practice at that time. But I honestly can't remember. I suspect what should have happened, as I've said many times, is they just needed to know.

THE CHAIRMAN: I thought Mr Orr's point was this was a relatively common practice in 2001 and had that been in place in Altnagelvin then whether Mr Bhalla and Mr Zafar knew, this was a way of them finding out; was that your point?

MR ORR: Yes. What I'm saying is that, in my experience in Scotland, it was certainly a common practice. I'm not saying it happened in every unit, but it was certainly a common practice in many of the units that I visited that there was a regular evening ward round because what it did, it prevented or forestalled problems emerging later on in the night.

THE CHAIRMAN: Thank you.

MR FOSTER: It's a very important point Mr Orr's making, but my recollection of this is that the evening round, when there was one, was round the patients who had come in that day. They would have started to come, at 8 o'clock, under the new admitting consultant. My recollections of an evening round that I recall was of a round of that day's patients in the evening.

THE CHAIRMAN: Maybe that's an indication of different practices. Thank you.

MR FOSTER: Oh yes, yes.

MS ANYADIKE-DANES: Leaving aside, Mr Foster, whether there was or should or might have been an evening ward round, do you think there should have been a way of Mr Zafar finding out what had happened to Raychel over the day? I mean leaving aside his expectations in terms of what Dr Butler might have done or Dr Devlin might have done, but here's a child who he hasn't seen since the early

morning or had any information on. Routinely, should there have been a way of him finding out what had happened to her over the day?

MR FOSTER: He was no doubt very busy during the day because we know that later on in the night he was extremely busy. What would have been to me good medicine was that the operating surgeon, Mr Makar -- and my understanding is that during the day he was doing something until around lunchtime or 1 o'clock. That's my recollection from his statement. What would be the normal practice of a conscientious doctor would be, as you're putting your coat on to go home in the afternoon, you call on the ward and see the patient you'd operated on the night before. That would be what I would have expected from a good surgical SHO. He was the operator, he was about to go, he wouldn't be coming back probably until the end of the weekend, and the last thing he should therefore have done was call in at the ward to see the little girl. And if he'd called in, around 1 o'clock or so, I am sure he would have suspected a problem.

Q. We're going to come on to it towards the end of your time, but in terms of communication with the family, the evidence from the Trust has been that in Altnagelvin they practised family-centred care and much of what you've said is to do with information flows, how the

relevant people know what the concerns are so that they can bring their expertise to bear on it. So far, we haven't mentioned the potential role of the parents in this. Do you think that there was a role for the parents being alerted to the fact that they could participate, if I can put it that way, in Raychel's care by communicating to the nurses and even helping with the administration of oral fluids in the way that Mr Zafar had indicated? Mr Orr.

MR ORR: In paediatric hospitals for many years, parents have been involved in the care of their children. That is relatively easy to say about chronic patients who have been in the ward for some time. For a patient who's only been admitted for less than 24 hours, it would be difficult to be prescriptive about how the parents were involved in care. But good practice would be that they could become involved in the sort of general care of their child. And reading the evidence, it would appear that Raychel's parents were involved to some extent with looking after some of her requirements post vomiting, things like that.

Q. And how important is their view as to how their child is presenting in your experience?

MR ORR: In my experience, it's very important. Obviously, you're listening to your nursing staff, who are going to

advise you about a patient's condition, but it is very important to listen to a parent's view, particularly if the parents have been sitting with their child throughout the day.

Q. Mr Foster?

MR FOSTER: I couldn't agree more. The parents' view and concerns and fears are paramount and should be listened to with great seriousness.

Q. If I ask you now on something that you had said earlier when you talked about the involvement of somebody more senior in the surgical team, perhaps Mr Bhalla. You said that that 10 o'clock intervention was really the last time that steps could be taken maybe to avert the deterioration that led to the seizure at 3 o'clock. Can I ask you, what are the steps that you had in mind that could have been taken? I'm not saying by the JHO who may not have had the experience to know what to do, but assuming that they had successfully involved the senior surgical clinicians, what are the steps that you think could have been taken at that stage or should have been?

MR FOSTER: Yes, what would Mr Bhalla have done? I think he'd have come and very quickly realised something was amiss. He would have, I'm sure, changed the fluids. He would have urgently done the necessary blood tests. He would, I suspect, have realised this was a serious

situation and involved paediatrics also. But he may not if he felt in control of the situation because a blood result would have been back about 22.30 or even before and could have shown -- it's purely guesswork -- a sodium somewhere in the low 120s. And that's a level I'm sure which is recoverable from. He might have wanted to seek some advice from someone else, a paediatrician or an anaesthetist, about how to administer fluid in this situation -- because it's so rare, I think I'd need advice as to what best to give and at what rate to give it -- and naso-gastric tubes, possibly, not necessarily. Just attention to the drip, attention to the bloods, a change of the fluid, and then you are on the way to reversing the situation.

Q. And Mr Orr?

MR ORR: I would agree with all of that.

Q. Thank you. Then we come now to the next intervention, which is immediately after she suffers her seizure, which is about 3 o'clock in the morning. And the person who once again literally happens fortuitously to be there is a paediatric SHO, Dr Johnston. He responds, he stabilises her, and he immediately contacts Dr Curran again and his evidence is he asked him to do two things. He wanted him to come and take the bloods because his suspicion was that the seizure that she'd had was

electrolyte-related and he also wanted him to contact his more senior colleague. In his evidence, it's at least involving the registrar. The medical notes that he made of that indicate perhaps the consultant as well. We don't need to pull it up, but for reference purposes it's 020-007-013 and he has "registrar/consultant". So it's clear he wanted Dr Curran to get in touch with somebody quite senior from the surgical team.

That's what he wanted and the reason he wanted that is because he was concerned that there may also be something happened that was related to her surgery which he may not appreciate because this was his first time being involved in Raychel's care. Dr Curran responds and he takes the bloods and then he contacts the SHO, Mr Zafar, and this is the part that I want to ask you about.

Mr Zafar's response is he's in A&E and is unable to come immediately, and apparently he tells Dr Curran that. And nothing else happens about seeking more senior surgical intervention than that until Mr Zafar comes and Mr Bhalla comes, having been bleeped by the nurse.

So there is a period of time from roughly some time shortly after 3.30, to about 5 o'clock, when they are waiting for the involvement of more senior surgical

staff. And if I ask you about that first, Mr Orr. Can you comment on that? Should something more have been done?

MR ORR: Well, given the extreme condition that Raychel was in and the possibility that there was a surgical problem as well as a medical problem, if Mr Zafar couldn't attend then Mr Bhalla should have been contacted as a matter of urgency.

Q. And who do you think should have done that? Should it have been Dr Curran, recognising that his SHO can't attend, or should it have been Mr Zafar?

MR ORR: Mr Zafar should have said, "I can't attend, I suggest you contact Mr Bhalla". And that should have happened.

Q. And if for any reason he hasn't said that, do you think Dr Curran should have exercised his initiative and actually contacted Mr Bhalla himself?

MR ORR: Well, I would have thought he should have.

Q. And Mr Foster?

MR FOSTER: For an emergency call like that, Zafar should have handled it. He can't have been incapable of taking a second to get Bhalla on the phone and say, "Please go to Ward 6, there's a problem there".

So I think that Zafar, as next up the line, it was his job to make sure his senior was informed and his

anxieties were expressed and I'm certain Bhalla would have gone there straightaway.

Q. And if for any reason he doesn't do that or rather Dr Curran doesn't get the assurance, "Don't worry about that, I can't come, but I'm going to get hold of Mr Bhalla", if he doesn't get that kind of assurance, do you think that Dr Curran should have used his initiative and himself contacted Mr Bhalla?

MR FOSTER: If Mr Bhalla hadn't turned up within about a quarter of an hour, if Dr Curran had the time -- of course, the situation would have been getting pretty busy and hands-on there -- he should have tried himself, yes. But it would have been ideal if Zafar had taken that task off the already frantically busy team on Ward 6.

Q. And if we just stick with the actions of the surgical team for the moment. That doesn't happen, there's a bit of running around to try and get the electrolyte results back and, as I say, no senior member of the surgical team arrives until almost together, I think, or very close in time, Mr Zafar and Mr Bhalla arrive.

Mr Bhalla says when he came he carried out an examination of Raychel. He suggested that they catheterise her, which they did, insert a naso-gastric tube, which they did, and I think he also agreed they

really should be having a CT scan done of her. And in terms of his direct involvement, that was it. Do you think that once he's performed those tasks, he should have made any attempt to contact the consultant to let the consultant know what was happening?

MR ORR: Yes. Yes, he should have contacted the consultant on call to ensure that he knew what was happening with this patient.

Q. And why do you say that?

MR ORR: Because the patient was critically ill. It was a patient who had previously had been thought to be well and making satisfactory progress. She's now collapsed, is extremely ill, and although the medical paediatricians are involved, there is no certainty as to what other conditions that may be surgical are involved. So I would say it was essential that the consultant on call knew that this collapse, this fit, had occurred.

Q. And is that notwithstanding the fact that, by that stage, or soon thereafter, you would have had a consultant paediatrician there and you'd have had a consultant anaesthetist there? Do you still say that notwithstanding that it would have been appropriate, in fact should have happened, that Mr Bhalla contact the consultant surgeon?

MR ORR: Well, the consultant surgeon should have been made

aware. It's then up to the consultant surgeon to decide what actions he then takes, but he then has an opportunity to make a decision about his actions at that stage.

Q. And Mr Foster?

MR FOSTER: I agree with Mr Orr completely. This was a major clinical event, once in some years in most hospitals, and of course Mr Bhalla should have picked up the phone to the consultant on call. What happened after that would be up to the consultant on call. But in the correct situation, he should have come in, exercised leadership of the team, which was already, I'm sure, extremely involved, extremely concerned and upset at what was going on. A senior surgeon was, after all -- Raychel was under the ownership of the surgical department when she arrived and throughout the day of the 8th. And the senior surgeon on call for the day should, I believe, have certainly come in and spoken to the family.

Q. And if that step had been taken, or even at the level of the registrar, when Raychel was taken to have a CT scan done and the CT scans were done, the first one showed the cerebral oedema, but suggested at some point that there might be a show of blood there and that gave rise to a second CT scan being carried out, an enhanced one,

which eliminated that possibility, but there was some suggestion that there might be some sort of surgical intervention that could be carried out by neurosurgeons in the Children's Hospital if there was a haemorrhage there. Do you think that the surgeons should have been engaged in those sorts of discussions with the Children's Hospital or is that a matter that really should have been carried out by the anaesthetists and the paediatricians?

MR FOSTER: As long as someone was in touch with the Children's Hospital, I think that was quite right, and it was important to do the CT scans. At that point Raychel's pupils had become fixed and dilated and this was a very, very serious sign. And I think that's where a senior person, preferably surgical, should have spoken to the family and appraised them of the fears and anxieties of the whole of the team.

Q. When you say that the consultant surgeon should have been notified, in your first report, Mr Foster, you are of the view that the consultant surgeon on call should have actually come in, should have been notified, yes, but should have responded by coming in. Are you still of that view?

MR FOSTER: Oh, yes. Yes, it is proper professional leadership. It is being the person in charge of the

team and you should come in there and give encouragement to the others, the other consultants, and I believe the absence of a senior member of the surgical team must have been noticed by everybody.

Q. Mr Gilliland was asked about that, whether the consultant should have come in, and I think his view is that he didn't think that that was necessary that the consultant should have come in. In fact, I think -- I'll be forgiven if I've misinterpreted his evidence, but he regarded that as a pattern of care that he didn't recognise because what that amounted to -- and this is from his evidence on 14 March at page 200 -- was that:

"Whenever there is a medical problem which happens to a patient which causes their death or very serious deterioration, as in this case, that you expect the surgical consultant to come in and speak to that parents' relatives."

And he said:

"That doesn't happen within the NHS. That's not a pattern of care that I've ever seen. There were senior clinicians there who could speak to the parents and who perhaps understood the situation better than a consultant would at that point."

Can you comment on that?

MR FOSTER: I don't accept that at all. This was a serious

clinical event. A little girl had come in, not many hours before, and had her appendix out and was now in a very critical state. He had made attempts to compare this to major medical episodes that can occur to patients and I don't think he really means that and I do hope that Mr Gilliland, on reflection, wishes he hadn't perhaps made that statement. I think he should have come in and exercised appropriate responsibility.

MR STITT: I'm sorry, I have to interject here. There's a difference between Mr Gilliland, the named consultant, and the consultant on call.

MR FOSTER: Yes, I accept that.

MR STITT: Well, I'm sorry for interrupting you, sir. It's perhaps --

THE CHAIRMAN: Sorry, let me just get it clear, Mr Stitt. Am I to understand that when Mr Gilliland made a statement, he was saying that it wasn't him who should have come in, but that he accepts that the on-call consultant should have come in?

MR STITT: No, no, my interjection is not on that point. My interjection was on the answer that was being given and that is why I rather abruptly interrupted the witness, for which I apologise. The witness was saying that Mr Gilliland may wish to reflect upon this and maybe say that maybe he should have come in. But he was not the

consultant on call.
THE CHAIRMAN: Right. He was the named consultant.
MR STITT: Yes. That's completely different and all the questions so far having dealing with the consultant on call.
THE CHAIRMAN: What's the Trust position about the on-call consultant? Would it be appropriate for the on-call consultant to come in in this scenario?
MR STITT: I'm going to have to take instructions on that. I do recall when Mr Gilliland was giving his evidence there appeared to be considerable confusion as to whether we were dealing with a consultant on call or the named consultant. And the questions, from my recollection, seemed to bounce between the two.
THE CHAIRMAN: I would like to know what the Trust position is.
MR STITT: That has led to this confusion, innocent confusion.
THE CHAIRMAN: I'd like that to be clarified because if Mr Gilliland is saying, "Insofar as the criticism is aimed at me as the named consultant for not coming in, that is a pattern I don't recognise in the NHS", then that's one thing. But if Mr Gilliland is saying that no consultant, either the on-call consultant or the named consultant should have been contacted or should have

come in, that is significantly different from what Mr Foster is saying.
MR STITT: Of course it is. Two points. Firstly, my interjection was to do with a specific answer. Dealing with your point, sir, I'm slightly disadvantaged because I do not have the transcript from the relevant day --
MS ANYADIKE-DANES: I can call it up. It's 14 March at page 200. If you can pull up 199 and 200 together.
MR FOSTER: Sir, may I say one thing?
THE CHAIRMAN: Of course.
MR FOSTER: This is such a serious situation. If you're a consultant surgeon, it doesn't matter whether you're on call or not; if something like this has happened to a patient under your care -- and it has happened to me over the years in various serious events -- whether you're on call or not, if you're physically capable of doing so, you go in. That is part of the job we signed up to.
THE CHAIRMAN: Mr Orr?
MR ORR: I'm about to ignore what's on the screen. My view would be in that situation, it should have been the consultant on call that was contacted and the consultant on call should have come in because you are managing a critical situation which requires all the consultants involved not only to manage the patient, but to

communicate with Belfast and, of course, to talk to the parents. And Raychel was still a surgical patient, although she was being managed, because of this serious complication, by the medical and anaesthetic team. So there should have been all the consultants required in at that time.
MS ANYADIKE-DANES: Mr Chairman, I have just pulled up to assist Mr Stitt -- one sees the start of it at the bottom of page 199. I am taking this from Mr Foster's report and he says:
"I have no doubt whatsoever that the consultant surgeon on call should have come in. He should have noted events, made a clinical note and, above all, seen the parents."
And then it goes on to talk about whether Mr Gilliland was or was not on duty. Picking up again at line 7:
"So Mr Foster's view, as expressed there, is that the consultant surgeon on call should have been contacted. He goes on to express the view that he should have come in."
Then if one looks at the answer to that proposition being put, which is at line 23:
"That's a pattern of care that I don't recognise from practice, the pattern of care that Dr Foster puts

out here. What he's effectively saying ..."
And then it goes on in the way that I had led into with Mr Foster before.
So it seems that what Mr Foster was clearly talking about then is the consultant surgeon who was on call being notified and that surgeon coming in.
THE CHAIRMAN: If we go to line 17, your question is:
"So if the consultant on call is notified in terms of ... would you have expected or wanted the consultant to have spoken to the parents, given that she's a surgical patient?"
And his answer is:
"That's a pattern of care that I don't recognise from practice, the pattern of care that Dr Foster puts out there."
MS ANYADIKE-DANES: That's exactly it.
THE CHAIRMAN: He refers to Mr Foster's report and Mr Foster's report is about the consultant on call.
MS ANYADIKE-DANES: Thank you, Mr Chairman. That's exactly the point.
THE CHAIRMAN: Unless this is to be corrected in some way, Mr Stitt, Mr Gilliland's evidence is that the consultant on call should not have come in because that's a pattern of care that he doesn't recognise from practice. Okay?
MR STITT: Whatever his evidence is is his evidence and I'm

reading it and I'm being reminded about what it was. I do remember there was apparently, I remember, a confusion between a consultant, named consultant, and a consultant on call. I accept that that passage which Ms Anyadike-Danes has referred to is quite clear.

I do go back to my point, however. My intervention was on a quite separate point. I take your point, sir, but my intervention was that the witness had mistakenly believed -- maybe he hadn't mistakenly believed, but he said in his report and he has said again throughout all of these questions up until two or three questions ago that it was the consultant on call who was the one who should have been contacted and who should have come in. Whether or not he had a physical role to play, he might at least have been able to speak to the parents. I haven't interrupted or interjected or made any point during any of this series of questions to do with the consultant on call. I have no basis for so doing, but when it gets transposed into Mr Gilliland, that's different.

THE CHAIRMAN: Since you represent the Trust, I'm taking that observation as meaning that the Trust accepts this criticism about the absence of the consultant on call and the failure to contact a consultant on call because that person had a role to play in the events after 3 am.

MR STITT: I've indicated I'll come back on that point. Mr Gilliland's given his view: that is not practice which he recognises. We know that Mr Scott-Jupp gives a different version. He did not see any real role that a surgical team could play after the fit as it was essentially a paediatric and medical matter.

THE CHAIRMAN: And we have the two expert surgeons here. Mr Orr says the consultant on call should have been contacted and should then have come in. And Mr Foster says effectively -- are you saying the consultant on call and/or the named consultant? Mr Orr's saying that in terms of contacting a consultant surgeon and bringing that person in, the surgeon on call should have come in, had he been contacted. Are you saying that it's the consultant on call and/or the named consultant?

MR FOSTER: I think there are two things. If I had been the registrar, I would have rung the consultant on call and I would also have rung Mr Gilliland because this was a critical event and I would have felt that he should be appraised of it at the earliest opportunity. He may have been away or something.

THE CHAIRMAN: Because Raychel was his patient?

MR FOSTER: Yes. Oh absolutely. And he has expressed a view that he considers a consultant's responsibility is to be in overall charge of a patient's care.

THE CHAIRMAN: Thank you.

MR STITT: There are really two responses. In answer to your point, sir, that there were two consultant surgeons here -- one who is qualified in paediatrics and one who has an interest in paediatrics -- who take a certain view, and on the other hand you have a paediatrician, Mr Scott-Jupp, who looks at it from a different angle, and Mr Gilliland -- albeit an involvement witness, he is nonetheless a consultant surgeon -- takes a different view. I wouldn't presume to say which you would prefer, but I am saying there is obviously room for different views, which I know I'm confident that you will balance in the fullness of time.

THE CHAIRMAN: Yes.

MR STITT: My second point is this. When you look at page 200 and at line 7, as Ms Anyadike-Danes sums up Mr Foster's view as she sees it, it reads:

"So Mr Foster's view, as expressed there, is that the consultant surgeon on call should have been contacted."

That's my understanding of the context of that question.

THE CHAIRMAN: Yes.

MR STITT: And I will stand corrected if somewhere else in Mr Foster's report he's saying that the named consultant

should have been contacted and should have come in. There is a reference further down the page to the named consultant possibly not being available.

But I go back to my initial interjection point in the middle of an answer, which is unusual for counsel to do, and that is that that was my first and only interjection and because it was crossing the line between the named consultant and the consultant on call.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Just to tidy up that point for Mr Stitt, Mr Foster's report, 223-003-014, it starts off:

"I have no doubt that a senior doctor like Mr Bhalla rarely called a consultant ..."

He goes on to say:

"However, in this case, he failed to recognise that he was facing an impending serious clinical incident and because of this, he should have informed the consultant on call, Mr Neilly, and also, if possible, Mr Gilliland, under whose care Raychel had been placed."

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: Can I just tidy that point up with you, Mr Orr? Is it your view that Mr Gilliland should have been notified that his patient had deteriorated to this level so that her pupils were now fixed and dilated and there was a proposal that she be transferred to the

Children's Hospital?
MR ORR: I think on the evening or the night it was the consultant on call who should have been contacted. I think it would have been appropriate the next day that Mr Gilliland was informed of what had happened since the patient had originally been admitted under his care.
Q. Yes. And if he had been informed of what had happened, do you think he had a role to play in talking to Raychel's parents? At that stage, of course, Raychel was still alive in the sense that she was still under care in the Children's Hospital.
MR ORR: Well, I think that he would have had to have had a discussion with his colleague, who was the on-call surgeon, and between them decided who was the most appropriate person to discuss events with the parents.
Q. By that, do I understand you to say that a consultant surgeon should have been discussing matters with Raychel's parents?
MR ORR: Yes. I'm not saying in isolation, but obviously in discussion with the paediatric anaesthetist, with the medical paediatricians, and by that stage, if Raychel had been transferred to Belfast, there would be involvement with the consultants in Belfast as well. So it's a complex scenario, but I think it is important that there was surgical involvement and representation

by the consultant under whom she was admitted.
Q. I asked Mr Bhalla about that, about contacting the consultant, and he said that when he went off duty he told the incoming registrar, Mr Date, that he should contact Mr Gilliland to let him know what had happened to Raychel, and his intention in doing that was so that Mr Gilliland would speak to Raychel's parents. And that's at the transcript of 14 March, and those references are at pages 52 and 59.
In fact, Mr Gilliland was -- and this is perhaps the last point I want to raise with both of you -- aware that there was to be a meeting with Raychel's parents some time after the event. Ultimately, it was set up for 3 September, by which time, of course, she had died. He said that he did not attend that meeting because he didn't think that it was appropriate for him to do so. There was represented there the consultant paediatrician and the consultant anaesthetist, who had treated her and they were in a position to, if the parents wanted it, to describe what had happened in Raychel's last moments, if I can put it that way, in Altnagelvin. And he wasn't in that position and he didn't see it as appropriate therefore -- I hope I'm accurately summarising his evidence -- for him to be there.
Can I ask you, Mr Foster, your response to that?

MR FOSTER: Well, it's quite simply back to the position that Mr Gilliland, at the time of Raychel's admission to the hospital, was the consultant in charge of her care. At some point or other, I think in the ideal world, he would have made contact with Raychel's family before this meeting on September 3rd to express his condolences and attempt to explain a little of what had happened. Not even in the ideal -- sorry, sir.
THE CHAIRMAN: I think Mr Gilliland has actually accepted the position on this. He said that so far as the meeting in September is concerned, he was invited, he thought it was inappropriate for him to attend, he had never met Raychel or her parents and he thought it might be easier for them to meet the people who they had met and I think, most importantly, he thought that there was nothing that he might be able to contribute from the surgical point of view. He said just last week he now knows that there was, although he doesn't believe he could have answered the questions better than Dr Nesbitt did, but he regrets if his presence could have helped the Ferguson family and assuage their grief. So I think he's now accepting that really there was something he could have contributed and it would have been better had he been there and he regrets the fact that he wasn't. If I interpret those as concessions which Mr Gilliland

has made, would you regard those as appropriate concessions for him to make?
MR FOSTER: Yes, I think it must have been something that bothered him and I'm pleased to see he has said that. His presence would have been appreciated.
THE CHAIRMAN: I think, Mr Coyle, I understand that the family has welcomed that; is that right?
MR COYLE: It's belated, but welcome.
THE CHAIRMAN: Thank you.
MS ANYADIKE-DANES: One final point which I omitted and I should have mentioned: Mr Bhalla was asked, as other clinicians were asked at that time before Raychel was transferred to the Children's Hospital, what he regarded as the prognosis for Raychel in view of what had happened since her seizure at 3 o'clock. Do you have a view, Mr Orr, as to what the prognosis was for her?
MR ORR: This is prior to her being handed over to the neurosurgeons for management?
Q. Yes, while she was still at Altnagelvin, but after her seizure.
MR ORR: Well, there should have been a best informed opinion from the consultants who were involved. I would doubt that they could be absolute in their opinion until they knew what the assessment was of Raychel in the Children's Hospital, but that would be an opinion,

a view, that should have come from the consultants, not from an experienced registrar.

Q. And Mr Foster, do you have a view of what the prognosis was for her?

MR FOSTER: I think when Raychel had a seizure, a respiratory collapse and a fixed dilatation of the pupils, the prognosis was extremely grave, and I cannot recollect a patient that I have seen with this kind of event who has recovered.

Q. You really were the one who felt quite strongly that somebody, a senior consultant member of the surgical team, should come in, and part of what they should be coming in to do was to speak to the parents. I know you said that as well, Mr Orr, but you have that in your report. What is it in your view that such a senior member should be saying in those circumstances to Raychel's parents?

MR FOSTER: This was a very important time to speak to them because these were absolutely horrific events that no parent wants to see and as an attending senior doctor, you have got to do your duty and be honest and upset yourself, which I certainly would be, and appraise them of what you think is going to happen. It's part of the job.

THE CHAIRMAN: Thank you.

MS ANYADIKE-DANES: If we finalise that, what would you have meant by being honest? What does that mean in those circumstances with the parents on the information that you have?

MR FOSTER: I would say, as gently as I could, that I didn't think she was going to survive.

MS ANYADIKE-DANES: Thank you.

THE CHAIRMAN: Thank you very much. Mr Campbell? Mr Stitt?

Gentlemen, thank you very much, it has been a long day, we're indebted to you for your contributions, both in writing and today. As you will be, I'm alert to the fact that the Fergusons are sitting listening and they must wonder why so many lessons are learnt after the event rather than things being better at the time. Let's hope at least if there's any small consolation to be seized from Raychel's death that the lessons are learnt now.

MR FOSTER: Sir, may I say one thing to the family? I feel over the last 18 months that I've got to know Raychel and it has upset me to see what happened and I would just like the family to accept from me my personal condolences in your sad loss.

THE CHAIRMAN: Thank you very much.

Ladies and gentlemen, tomorrow morning we're going to start at 10.15. On a slightly lighter note, from

9.45 you'll have the chance to buy coffee and buns so that Rachel McAdorey's fund-raising for the hospice can be supported by the inquiry. 10.15 tomorrow.

(6.00 pm)

(The hearing adjourned until 10.15 am the following day)

I N D E X