Witness Statement Ref. No. 044/2

NAME OF CHILD: RAYCHEL FERGUSON

Name: Robert Gilliland

Title: Doctor

Present position and institution: Consultant Colorectal / General Surgeon, South Eastern Health and Social Care Trust

Previous position and institution: Consultant Colorectal / General Surgeon, Altnagelvin Hospital
[As at the time of the child's death]

Membership of Advisory Panels and Committees:
[Identify by date and title all of those since your Witness Statement of 1st July 2005]

POSITIONS HELD

Local
Chairman, Western Area Board Colorectal Cancer Screening Implementation Group 2005-2006

Regional
Core Surgical Training Programme Director, Northern Ireland, 2007 - 2011
Deputy Head School of Surgery, Northern Ireland 2008-2011

National
Intercollegiate Assessor for the Award of the CCBST (Certificate of Completion of Basic Surgical Training) 2005-2007

COMMITTEES

Local
Bowel Screening Implementation Committee, SE Trust, 2009-
Endoscopy Users Committee, Lagan Valley Hospital, 2009-

Regional
School of Surgery Board, NIMDTA, 2008-2011
Specialty Schools Forum, NIMDTA, 2008-2011
Trauma and Orthopaedic Training Committee, 2008-2011
Quality Management Group, NIMDTA, 2009-2010

National

Core Surgical Training Chairmen's Forum, Royal College of Surgeons of England, 2008 -2011
Early Years Task Group, Royal College of Surgeons of England, 2006
ISCP (Intercollegiate Surgical Curriculum Project) Implementation Group, 2006 - 2008

Previous Statements, Depositions and Reports:

[Identify by date and title all those made in relation to the child's death since your Witness Statement of 1st July 2005]

OFFICIAL USE:

List of previous statements, depositions and reports attached:

Ref:	Date:	
044/1	01.07.2005	Inquiry Witness Statement

IMPORTANT INSTRUCTIONS FOR ANSWERING:

Please attach additional sheets if more space is required. Please identify clearly any document to which you refer or rely upon for your answer. If the document has an Inquiry reference number, e.g. Ref: 049-001-001 which is 'Chart No.1 Old Notes', then please provide that number.

If the document does not have an Inquiry reference number, then please provide a copy of the document attached

I. QUERIES IN RELATION TO YOUR MEDICAL QUALIFICATIONS, EXPERIENCE, TRAINING AND RESPONSIBILITIES

(1) Please provide the following information:

(a) State your medical qualifications as of the 7th June 2001.

MD FRCS

(b) State the date you qualified as a medical doctor.

June 1983

(c) State the date of your appointment to Altnagelvin Hospital, and the role to which you were appointed.

August 1997; Consultant Colorectal / General Surgeon

(d) Describe your career history before you were appointed to Altnagelvin Hospital.

See attached CV

(e) State the date on which you were first appointed Consultant Surgeon.

August 1997

(f) Describe your work commitments to the Altnagelvin Hospital from the date of your appointment to the 9th June 2001, stating the locations in which you worked and the periods of time in each department/location.

I was a full-time Consultant General Surgeon with a special interest in Colorectal Surgery between those dates.

(g) Describe your duties as a Consultant Colorectal /General Surgery at Altnagelvin Hospital between the 7th-9th June 2001.

I was the "on-call" surgeon for emergencies from 9am on 7th June until 9am 8th June 2001. Between those hours all patients admitted to General Surgery would have been placed under my care. In addition to my normal daytime commitments on 7th and 8th June I would have been available for consultation or direct clinical care of these patients as deemed necessary. I was not on duty on the evening of the 8th June or at any time on the 9th June.

(h) How much experience did you have of working with post-operative patients (children) by the 9th June 2001?

I spent 3 months as House Officer in the Neurosurgical unit of the Royal Victoria Hospital, Belfast from November 1983 – January 1984 where I was responsible for the post-operative care of both neonates and children.

From August 1984 - July 1985 I was a Senior House Officer in General Surgery and Accident and Emergency Medicine in Downe Hospital, Downpatrick where I dealt with both emergency and elective surgical cases in children.

From August 1986 - January 1987 I was a Senior House Officer in Paediatric Surgery, Royal Belfast Hospital for Sick Children responsible for day to day in-patient care, operating sessions, clinics, and on-call covering emergency admissions to RBHSC, Belfast City Hospital and the Ulster Hospital Dundonald.

Between August 1987 - July 1988 I was a Senior House Officer in lieu of Registrar, General Surgery, Waveney Hospital, Ballymena where I dealt with both emergency and elective surgical cases in children.

I did a further 6 months attachment in Royal Belfast Hospital for Sick Children from August 1991 - January 1992 as the Registrar, Paediatric Surgery. I was again responsible for day to day in-patient care including management of a 12 cot neonatal unit and surgical patients in intensive care, operating sessions, clinics, and on-call covering emergency admissions to both Royal Belfast Hospital for Sick Children and Ulster Hospital Dundonald.

From August 1994 - July 1995 I was the Senior Registrar in General Surgery in Altnagelvin Area Hospital, Londonderry where again I dealt with both emergency and elective surgical cases in children.

In August 1997 I was appointed as Consultant Colorectal/General Surgeon in Altnagelvin Area Hospital. I dealt with children admitted as an emergency to general surgery initially on a 1:4 rota. During the first 2 years of my appointment I regularly performed a day case operating list which often dealt with the general surgery of childhood.

II. QUERIES ARISING OUT OF YOUR INITIAL STATEMENT TO THE INQUIRY (WS-044/1) IN RELATION TO PRE-OPERATIVE ISSUES

(2) *"In 2001 the surgical consultants were on call for a period of 24 hours during weekdays ie. from 9am to 9am the following morning. During the weekends the period of on call was 9am on Friday to 9am on Monday. Patients admitted during a consultant's on call period were allocated to the care of that consultant. These patients would be cared for during working hours by members of that consultant's team but out of hours would be cared for by the on-call team."* (Ref: WS-044/1, page 3)

(a) In 2001 was there any system in place by which the on-call consultant would be informed that a patient had been admitted under his care?

The Consultant would not be informed at the time of each admission. If there was a clinical

need to inform the Consultant about an individual patient that would have been done at any time during the 24 hour "on-call" period. There was no formal protocol for ensuring that the on-call Consultant was informed of all patients under his care at that time.

(b) If so, how was that system supposed to work?

It was normal practice for the Consultant to be informed the following morning of those patients admitted under his care either by the nursing staff on the ward or by a member of the overnight on call team.

(c) How was it applied in Raychel's case?

I have no recollection of the exact mechanism by which I was informed that Raychel was under my care.

(d) In 2001 what was the purpose of allocating a patient to the care of an on-call consultant?

All patients admitted to hospital must be under the care of a named Consultant.

(e) In 2001 what responsibilities did an on-call consultant have for the patient allocated to his care?

The principal commitment for a consultant surgeon is the provision of a surgical service. The consultant surgeon therefore takes responsibility for the management of his clinical service. The delivery of care will frequently be delegated to other members of the surgical team who are deemed by the consultant to be competent to deliver the care. Patient care is therefore consultant led rather than consultant delivered.

(f) In 2001 how was it expected that an on-call consultant would exercise those responsibilities to a patient who had been allocated to him?

The on-call consultant would oversee the totality of the patient's care.

(3) *"Raychel Ferguson was admitted to Altnagelvin Area Hospital under my care as an emergency admission on the evening of 7th June 2001* (Ref: 020-001-001)." (Ref: WS-044/1, page 3)

(a) As Raychel was admitted under your care, what was your responsibility for her?

It was my responsibility to oversee Raychel's care.

(b) How was it expected that this responsibility would be exercised?

I would need to be satisfied that anyone delivering clinical care was appropriately qualified and competent to do so. I was expected to be available for consultation and delivery of care as required. For those patients who remained in hospital during a period of time when I was not on duty, I would need to be assured that those to whom responsibility was delegated were competent.

(c) How was it exercised by you?

I was aware that all members of the surgical team who cared for Raychel had been through a selection process confirming their suitability for the position they held. I was available for consultation or direct clinical care between 9am on 7th June and approximately 6pm on 8th June. I was aware that the consultant colleague who was on call from 9am on 8th June was appropriately qualifed.

(d) Should you have exercised this responsibility in a different way than you did in practice?

No

(4) In June 2001 were you aware of the conclusions reached by the National Confidential Enquiry into Perioperative Deaths (NCEPOD) (in its 1989 report "Who Operates Where") concerning the requirement for consultant supervision of trainees undertaking any anaesthetic or surgical operation on a child?

No

(5) Whether or not you were then aware of this NCEPOD report, how do you consider the conclusions reached in the report concerning the requirement for consultant supervision ought to have applied to the management of Raychel's treatment and surgery?

This report deals with the deaths of 295 children aged up to 10 years old. The majority of deaths were in children having cardiac surgery and less that 6% of deaths occurred in children operated on by a general surgeon. Furthermore 75% of the deaths occurred in children aged 3 or less and 96% were ASA 2 or greater (indicating that they had some other health problem). Using these data NCEPOD made a recommendation that no trainee should undertake any anaesthetic or surgical operation on a child of any age without consultation with their consultant". On the basis of the data collected whether or not this recommendation should apply to a healthy (ASA 1) 9 year old child undergoing an appendicectomy is a matter for debate but it was not policy in Altnagelvin at that time.

(6) Were the conclusions reached by the NCEPOD concerning the requirement for consultant supervision a child actually applied in Raychel's case? If so, explain how the requirement for consultant supervision of trainess was put into effect in her case?

The recommendation made by NCEPOD in this report was not applied in Raychel's case.

(7) In June 2001 did Altnagelvin Hospital have any policy, practice or guidance (written or unwritten) concerning the circumstances in which junior surgeons (such as SHOs) were expected to confer with their senior colleagues before undertaking any anaesthetic or surgical procedure?

Yes. Whilst Atnagelvin Hospital did not, to my knowledge, have any specific written policy concerning the circumstances when junior surgeons should confer with senior colleagues, in practice this circumstance was governed by the principles laid out in the GMCs guidance on Good Medical Practice.

If so, please address the following:

(a) What did that policy, practice or guidance say on this matter?

The GMCs guidance states that all doctors must recognise and work within the limits of their competence and consult and take advice from colleagues when appropriate.

(b) How was this policy, practice or guidance brought to the attention of junior surgeons?

It is the responsibilty of all doctors to be aware of these principles. It was my usual practice to assure all members of the surgical team (SHOs and registrars) that I was available for consultation and advice as they deemed necessary.

(c) How was this policy, practice or guidance applied in Raychel's case?

The decision to operate on Raychel was made by Mr. Makar FRCS, an experienced surgeon who was working within his competency.

(8) Were you or any of your senior surgical colleagues advised by Mr. Makar (Surgical SHO), before Raychel was brought to theatre, that an appendicectomy was to be performed? If so,

No.

(a) Who was advised and by whom were they advised?

(b) When were they advised?

(c) What was discussed?

(9) If the plan to perform an appendicectomy was not discussed by Mr. Makar with senior members of the surgical team, should it have been discussed?

No.

If so, please address the following:

(a) Was any omission to discuss the plan to perform an appendicectomy the subject of any inquiry or discussion after Raychel's death?

No. In this case pre-operative discussion with a consultant would not have resulted in a change of management plan. Our enquiries after Raychel's death focused on formulating guidelines on peri-operative fluid management in an attempt to ensure that no future child in our hospital or further afield was placed at risk of post-operative hyponatraemia.

(b) If so, fully explain who inquired into or discussed this matter.

(c) Describe any steps that were taken on foot of any inquiry or discussion.

(10) In June 2001 describe the circumstances, if any, in which it would have been permissible for a senior house officer to conduct an appendicectomy without first referring the matter for consideration to a more senior colleague?

It was permissable for a senior house officer to conduct an appendicectomy if he/she was competent to make the decision to operate and conduct the procedure competently.

(11) In June 2001 were you aware of the conclusions reached by NCEPOD (in its 1997 report, "Who Operates When?") concerning the conduct of out of hours surgery?

No

(12) Whether or not you were then aware of this NCEPOD report, how do you consider the conclusions reached in the report concerning the conduct of out of hours surgery ought to have applied to the management of Raychel's treatment and surgery?

Raychel's surgery was carried out by a trained and competent surgeon.

(13) In 2001 did Altnagelvin Hospital have a 24 hour emergency operating room as referred to in the NCEPOD report? If so, how what arrangements were in place for the staffing of this theatre?

No.

(14) In June 2001 did Altnagelvin Hospital have any policy, practice or guidance (written or unwritten) with regard to the conduct of surgery on children late at night by junior surgeons?

Yes. Whilst there was not, to my knowledge, have any specific written policy concerning the conduct of surgery on children at any time by junior surgeons, in practical terms these circumstances were governed by the principles laid out in the GMCs guidance on Good Medical Practice.

If so, please address the following:

(a) What did that policy, practice or guidance say on this matter?

The GMCs guidance states that all doctors must recognise and work within the limits of their competence and consult and take advice from colleagues when appropriate.

(b) How was this policy, practice or guidance brought to the attention of junior surgeons or those surgeons starting at Altnagelvin for the first time?

It is the responsibilty of all doctors to be aware of these principles. It was my usual practice to assure all members of the surgical team (SHOs and registrars) that I was available for consultation and direct clincal care as they deemed necessary.

(c) How was this policy, practice or guidance applied in Raychel's case?

Raychel's surgery was carried out by Mr. Makar FRCS, an experienced surgeon who was working within his competency.

(15) Have you reviewed (whether formally or informally) the circumstances in which the decision was made to bring Raychel to theatre for an appendicectomy? If so,

Yes

(a) When did you carry out this review?

Contemporaneously with the critical incident meeting on 12-6-2001.

(b) How did you carry out this review?

A review of the notes and informal discussion with Mr. Makar

(c) What conclusions did you reach?

Raychel's symptoms were such that it was appropriate for her to undergo an emergency appendicectomy.

(16) *"A diagnosis of acute appendicitis was made on the basis of the history and clinical findings* (Ref: 020-007-012). *She was given 2mg of Cyclimorph intravenous for pain* (Ref: 020-006-010). *Consent was obtained for the operation of appendicectomy* (Ref: 020-008-015) *and she was admitted to ward 6. Raychel was fasted and an intravenous solution was commenced to run at 80 ml/hour* (Ref: 020-020-039)." (Ref: WS-044/1 Page 3)

(a) Was it appropriate in the circumstances of Raychel's case for Cyclimorph to be administered before she was examined by the surgeon?

Yes.

(b) From your consideration of the notes and records what weight ought to have been given to the following factors before deciding that it was necessary to proceed to surgery to perform an emergency appendicectomy:

(i) It was late at night;

The decision to operate was made during the early evening but as Raychel was not fully fasted she could not be taken to theatre until approximately 11pm. Conducting an appendicectomy before midnight was then and remains now acceptable practice.

(ii) The symptoms were of short duration;

None. Raychel had the typical history and examination findings for appendicitis.

(iii) There was an absence of inflammatory changes on blood testing;

The White Cell Count (WCC) is usually raised in cases of appendicitis but not exclusively. Raychel presented with the typical history and examination findings of appendicitis and the presence of a normal WCC would not have excluded a diagnosis of appendicitis, especially early appendicitis.

(iv) Temperature was normal;

A normal temperature is a common finding in children with acute appendicitis.

(v) There was evidence of proteinuria on urine analysis;

A significant number of children with appendicitis have abnormalities on urine analysis.

(vi) There was evidence of pain on urination

Dysuria can occur in children with appendicitis.

(c) From your consideration of the notes and records should an alternative diagnosis have been considered?

From the notes it is clear that other diagnoses were considered.

(d) From your consideration of the notes and records, what advice or guidance would you have given to Mr. Makar if you had been consulted by him concerning whether there was a need to perform an emergency appendicectomy on the night of the 7 June 2001, or whether the patient could be managed conservatively? What factors do you rely on to support the conclusion that you have reached?

I think it is likely that had I been contacted by Mr. Makar and told that he had a 9 year old girl with a history of periumbilical abdominal pain that had migrated to the right iliac fossa, who was indicating that her pain was maximal over McBurney's point and in whom examination revealed tenderness, guarding and percussion rebound in the right iliac fossa that I would have concurred with his decision to perform an appendicectomy.

(17) Before surgery was performed a urine test (Ref: 020-016-031) showed one + of urine, and a repeat urine test (Ref: 020-015-030) showed proteinuria ++. Should a urine sample have been sent for culture and microscopy before a decision was made to operate?

No.

(18) "*The operation note records that the appendix appeared mildly congested and contained a faecolith* (Ref: 020-10-018). *The presence of a faecolith was subsequently confirmed on macroscopic pathological examination* (Ref: 020-022-047)." (Ref: WS-044/1 Page 3)

(a) What is the significance of the presence of a faecolith?

Obstruction of the lumen of the appendix is the cause of appendicitis. A faecolith is a partly calcified ovoid faecal mass which can on occasions cause an obstruction precipitating acute appendicitis. There is also some evidence that a faecolith may cause acute abdominal pain that mimics appendicitis.

(b) Was the appendix found to be histologically normal?

Yes

III. QUERIES ARISING OUT OF YOUR INITIAL STATEMENT TO THE INQUIRY (WS-044/1) IN RELATION TO POST-OPERATIVE ISSUES

(19) In June 2001 did Altnagelvin Hospital have in place any policy, practice or guidance (written or unwritten) concerning post-operative management of children?

Not to my knowledge.

If so, please address the following:

(a) What were the main aspects of this policy, practice or guidance ?

(b) How was this policy, practice or guidance brought to the attention of junior surgeons or those surgeons starting at Altnagelvin for the first time?

(c) How was this policy, practice or guidance applied in Raychel's case?

(20) *"The following morning Mr. Zafar, surgical SHO, saw Raychel. His note* (Ref: 020-007-013) *records that she had a bit of pain but was apyrexic. No causes for concern were noted and continued observation was recommended."* (Ref: 020-001-001)." (Ref: WS-044/1, page 3)

(a) In 2001 were there any arrangements in place to enable discussions to take place between the surgeon who performed the surgery (Mr. Makar) and the surgeon who was conducting the ward round (Mr. Zafar), such as in the form of a 'hand over'? If so,

(i) Please describe those arrangements .

In 2001 there were no formal arrangements for a hand over between the surgical team on call over night and the team coming on duty the following morning.

(ii) State how they were expected to operate in a case such as Raychel's?

It would have been common practice for the overnight "on call" surgeon to speak to a member of the "on call" consultant's team to inform him/her of overnight admissions.

(b) In terms of the following particular matters, what were the arrangements (in 2001) for attending a child as part of a morning ward round in circumstances where that child had undergone an appendicectomy late on the previous night:

(i) The identity of those who would conduct the ward round;

The ward round would be conduted by the Consultant or a member of his/her team (Registrar or Senior House Officer).

(ii) The seniority of the clinicians who would attend;

The ward round would be conduted by the Consultant or a member of his/her team (Registrar or Senior House Officer).

(iii) The information which would be made available to those attending the ward round;

The person conducting the ward round would usually have access to the patient's history, their investigations, their diagnosis, their operative findings, their observations, their drug prescriptions and their fluid balance. In addition the person conducting the ward round would usually be accompanied by a nurse or would speak to a nurse to confirm the management plan for that day and therefore any nursing concerns would be expressed at that time.

(iv) The sources of that information;

The clinical notes, the observation, drug and fluid balance charts and the nusring staff.

(v) The timing of the ward round in relation to the conclusion of the surgery;

Ward rounds normally commenced at approximately 8.30 each morning regardless of the time of conclusion of any surgeries from the previous evening.

(vi) Whether an examination would take place, and if so, the nature of that examination;

There were no specific stipulations concerning what clinical examination if any would be performed during that ward round. It would be left to the discretion of the doctor conducting the ward round.

(vii) The issues that would be considered during the ward round;

The issues considered would include the patient's general physical condition and whether they were making satisfactory progress. Also considered would be their observations, the requirment for pain relief and antibiotics, and a plan for the commencement of oral intake.

(viii) The purpose of the ward round.

The ward round permits a general review of the patient's condition to ensure that they are making satisfactory progress and provides an opportunity to plan further management as required.

(c) Explain why a senior member of the surgical team such as a Specialist Registrar or Consultant did not attend Raychel during the ward round on the morning of the 8th June 2001?

The notes record that Mr. Zafar FRCS saw Raychel that morning. In 2001 it was not normal clinical practice for all patients to be reviewed by a consultant or specialist registrar if they had already been seen by an experienced member of staff.

(21) In 2001 how was responsibility for management of post-operative care allocated within the surgical team, and in particular,

(a) Identify who was responsible for taking the lead in terms of organising Raychel's post-operative care?

In the immediate post-operative period care would be led by the surgeon performing the case. The following morning further post-operative care would be delivered by members of the surgical team in accordance with their roles within that team. The consultant under whose care the patient was admitted would oversee the totality of the patient's care.

(b) What were the tasks associated with Raychel's post-operative management which had to be allocated?

She required to be reviewed on the morning after surgery to ensure that she was making adequate progress.

(c) How were those tasks allocated, and to whom were they allocated?

Whilst the Consultant often took the lead in seeing patients there would be times when this task would be directly allocated by the Consultant to other members of the team. However, all members of the surgical team (Senior House Officers and Registrars) would understand that all patients under the care of their team would need to be reviewed on a ward round and would often take responsibility for assessing patients and reporting to their Consultant.

(d) How was it expected that those tasks would be carried out?

If the patient had been seen by a member of the surgical team other than the Consultant then it would be their responsibility to report any clinical concerns to a more senior member of the team who was competent to deal with those concerns.

(22) *"The nursing records document that Raychel vomited three times between 9am and 5pm on 8th June 2001* (Ref: 020-018-037) *and she was prescribed Zofran 2mg* (Ref: 020-017-035). *She continued to be nauseated and vomited a further two times during the evening of 8th June 2001* (Ref: 020-018-037; Ref: 020-027-064)...*She was prescribed Valoid 25mg intravenous for nausea which was given at 10.15pm* (Ref: 020-017-034)." (Ref: WS-044/1 page 4)

(a) You have referred to five episodes of vomiting on the 8th June 2001. How many episodes of vomiting were recorded on Raychel's fluid chart for the 8th June 2001 (Ref: 020-018-037)?

Six or seven episodes. A single episode before 9am; three episodes between 9am and 5 pm, and two further episodes in the evening. The episode recorded at 22.00 hours is recorded as "vomited small amounts x3" which I have regarded as a single episode. There is an additional entry at 23.00 hours which I had assumed referred to the characteristics of the vomiting recorded at 22.00 but may refer to a separate episode. The notes are unclear on this matter.

(b) What action, if any, does the surgical team expect from the nursing team, when a child is vomiting post-operatively?

The surgical team expect the nursing team to record the vomiting and inform medical staff if appropriate.

(c) From your consideration of the notes and records in Raychel's case, comment on the steps that were taken by the nursing team to communicate with the surgical team and what further steps, if any, ought to have been taken?

From the notes the nursing team contacted the JHO on 2 occasions concerning Raychel's vomiting. It would appear that there were no specific concerns expressed to the medical staff about the frequency or volume of vomiting that Raychel was experiencing.

(d) From your consideration of the notes and records in Raychel's case, comment on the care provided by Dr. Devlin (JHO Surgical) when he attended with Raychel at or about 18.00 hours on the 8th June 2001 to prescribe/administer Zofran, and what further steps, if any, ought to have been taken?

I believe Dr. Devlin's care when he attended Raychel at this time to be reasonable. Firstly, the nursing staff did not appear to regard the volume of vomiting to be anything out of the ordinary for a child in the early post-operative phase post appendicectomy. Secondly, it would have been too early in Raychel's post-operative course to consider other complications (such as a post-operative ileus, obstruction or pelvic abscess) as a cause for the vomiting. Thirdly, the dangers of post-operative dilutional hyponatraemia in children were not appreciated by many doctors at that time. For these reasons I therefore think it was reasonable to treat Raychel symptomatically with the prescription of an anti-emetic.

(e) From your consideration of the notes and records in Raychel's case, comment on the care provided by Dr. Curran (JHO Surgical) when he attended with Raychel at or about 22.15 hours on the 8th June 2001 to prescribe/administer Valoid, and what further steps, if any, ought to have been taken?

I believe that Dr. Curran, when he attended Raychel at 22.15 to be in a similar situation to Dr. Devlin when he attended Raychel earlier and therefore I think his treatment at that time was reasonable.

(23) *"At approximately 3.00am on 9th June 2001 Raychel suffered a seizure and was attended by Dr. J. Johnston, the on-call paediatric, SHO* (Ref: 020-007-013). *The on-call surgical registrar (who I now know to be Mr. Bhalla and not Mr. Zafar as in my original statement* (Ref: 012-017-120) *was also contacted and attended Raychel* (Ref: 020-007-014). *Dr. Johnston contacted his senior colleague Dr. B. Trainor who took over Raychel's care at approximately 4.15am* (Ref: 020-015-023; Ref: 020-015-024). *Dr. McCord, Consultant Paediatrician, also attended* (020-015-025)." (Ref: WS-044/1 page 4)

(a) Who was the (out of hours) on call Consultant Surgeon on the morning of the 9th June 2001?

Mr. Neilly

(b) In what circumstances would the (out of hours) on call Consultant Surgeon be contacted to be told about the condition of a surgical patient?

He/she would be contacted if the on call surgical team required advice about a patient or required his/her direct clinical input.

(c) In what circumstances would you (in your capacity as Consultant Surgeon) expect to be contacted in relation to a patient admitted under your care whose condition has deteriorated?

If I were "on call" I would expect to be contacted if the "on call" surgical team required advice about a patient or required my direct clinical input. If I were not "on call" then I would expect to be contacted during normal working hours about any of my patients where a deterioration had occurred that required my input or advice.

(d) Explain why Consultants in Paediatric Medicine (Dr. McCord) and Anaesthesia (Dr. Nesbitt) were contacted and attended Raychel when she deteriorated, whereas a surgical consultant was not contacted and/or did not attend?

As I did not call these doctors I would surmise that the reason they were called as opposed to a Surgical Consultant was that it was the decision of the doctors treating Raychel at that time that the expertise required was that of a Consultant Paediatrician and a Consultant Anaesthetist.

(e) Do you know why you weren't contacted in relation to Raychel's deterioration?

No.

(f) Should you have been contacted when Raychel deteriorated?

No. I was not consultant on call.

(g) If it was not appropriate to contact you, should any other Consultant Surgeon have been contacted when Raychel's condition deteriorated?

I think it would have been reasonable to contact either the "on call" Consultant when the seriousness of the situation became clear and when there was a suitable opportunity to do so.

(24) *"Initial post-operative fluids are usually a continuation of fluids prescribed intra-operatively. This prescription would be started by the anaesthetist in theatre and taken over by the surgical team on return to the ward. Thereafter, the prescription of intravenous fluids for patients is usually the responsibility of the Pre-registration House Officer. The nursing team would usually inform him/her that a patient on IV fluids required a further prescription, which s/he would be asked to prescribe. However, IV fluids for patients at ward level can be prescribed by any member of the surgical team and are often prescribed by more senior members of the team during routine ward rounds."* (Ref: WS-044/1 page 4)

(a) Explain how or from where you obtained this understanding of the arrangements for post-operative fluid management.

This would be usual practice in my experience.

(b) Was this description of post-operative fluid management the subject of any written or unwritten guidance or protocol?

Not to my knowledge.

(c) How were the arrangements for post-operative fluid management disseminated to new surgeons commencing work in the Altnagelvin Hospital?

I'm not aware that any specific arrangements were in place to disseminate this practice.

(d) In Raychel's case outline whether her post-operative fluids were managed in accordance with your description, and address the following specific matters:

(i) What were Raychel's intra-operative fluids?

She received 200ml of Hartmann's solution.

(ii) Were her initial post-operative fluids a continuation of the fluids prescribed intra-operatively?

No. She was recommenced on No. 18 solution at a rate of 80ml/hr that had been prescribed pre-operatively.

(iii) If her initial post-operative fluids were not a continuation of the fluids prescribed intra-operatively, do you know why there was a departure from what you say usually happens?

No.

(iv) Identify those members of the surgical team who were responsible for taking over the intra-operative fluid prescription when Raychel returned to the ward?

The members of the on call surgical team would be responsible for the on-going fluid management in the post-operative phase. On Raychel's return to the ward that would be the on call Senior House Officer and/or Junior House Officer.

(v) Identify the pre-registration house officer who had responsibility for prescribing fluids for Raychel after her return to the ward?

I do not know which PRHO was on call in the early hours of that morning but their input was not required as a prescription for fluid was already in place.

(vi) Should a fluid prescription have been written post-operatively for Raychel, upon her return to the ward?

No. A fluid prescription had already been made by Mr. Makar pre-operatively and this was continued post-operatively. I would not have expected a new prescription to have been required at that time

(vii) If so, which member of the surgical team should have written a prescription for Raychel's post-operative fluids?

(viii) Was a prescription written for Raychel's post-operative fluids, and if so, please identify the document?

Mr. Makar has written up 1 litre of No. 18 solution to be given at a rate of 80ml/hr (020-021-040). This was commenced at 10.15pm on 7th June. It was discontinued prior to theatre and recommenced on Raychel's return to the ward (020-020-039).

(ix) If a prescription wasn't written, do you know why this omisison occurred?

(25) Comment on whether, in your view, Raychel's post-operative fluid requirements were properly managed having regard to the following matters:

(a) The type of fluid for maintenance;

Raychel was given No. 18 solution which was at that time the fluid routinely prescribed for maintenance in children.

(b) The rate of fluid (80 ml/hr);

According to Raychel's recorded weight, the rate of fluid required for maintenance would be 65ml/hour.

(c) The volume of fluid;

A rate of 80ml/hr over 28 hours would mean that a total of 420ml of fluid would have been administered over and above Rachel's maintenance requirements.

(d) The requirement, if any, for replacement fluids, and if so, whether this requirement was met.

A total of 6-7 episodes of vomiting are recorded on Raychel's fluid balance chart. There is now a clearer understanding of the need to replace this type of fluid loss in children with a solution containing higher concentrations of sodium (0.9% saline or Hartmann's solution) rather than No. 18 solution. Therefore an estimation of the amount of vomiting that Raychel was experiencing and replacement of that fluid loss with 0.9% saline or Hartmanns' would have been better management. However, neither an estimation of the volume of vomiting or the use of higher solute containing solutions was common practice in the paediatric surgical unit in Altnagelvin Hospital at that time.

(26) Explain why Raychel was not seen by a member of the surgical team any more senior than a senior house officer from the time of her admission at or about 21.00 hours on the 7th June 2001, until she was seen by Mr. Bhalla on or after 05.00 hours on the 9th June 2001?

I have described already the arrangements that were in place during the evening on 7th June when she was diagnosed with appendicitis and had her surgery. I have also described the usual practice concerning post-operative ward rounds and the mechanism by which Raychel was reviewed by Mr. Zafar early on the morning of 8th June. Thereafter, no member of the surgical

team was called to see Raychel until her sudden deterioration in the early hours of 9th June.

(27) Have you reviewed the care provided to Raychel by the surgical team? If so,

Yes. The care provided to Raychel by the surgical team has been reviewed as part of the critical incident review which took place on 12th June 2001.

(a) Should Raychel have received different management or treatment than she did receive from the surgical team, having regard to her overall condition and in particular the fact that,

(i) She was a post operative patient;

Raychel's initial post-operative management was not significantly different to any other post-operative child at that time in that she was reviewed promptly on the morning after her surgery where she appeared to be progressing appropriately and where there were no causes for concern. She was commenced on oral fluids and it would have been anticipated that a normal oral fluid intake would have been established during the day and that IV fluids would have been discontinued. Nevertheless, our review into Raychel's case led to the introduction of a policy whereby persistent vomiting and an ongoing need for IV fluids for more that 12 hours post-operatively is now an indication for surgical review and an assessment of the patients electrolytes (blood test) but this practice was not in place in June 2001.

(ii) She was receiving intravenous Solution 18;

Solution 18 was the standard fluid used in the paediatric ward in June 2001. Its use was stopped in our hospital within a few days of Raychel's death as a result of the critical review of her case.

(iii) She had suffered prolonged vomiting post-operatively.

Persistent vomiting and an ongoing need for IV fluids for more that 12 hours post-operatively is now an indication for surgical review and an assessment of the patients electrolytes (blood test) but this practice was not in place in June 2001.

And if she should have received different management or treatment,

(iv) What should that management or treatment have included?

As a result of the critical review of Raychel's care we now know that a number of changes should have been made in her management. Were she to be admitted now, following the introduction of these policies, her treatment would include a surgical review after 12 hours of IV fluid prescription post-operatively, a blood test and a different fluid regime but these policies were not in place in June 2001.

(v) Who should have arranged for it to be provided?

As I have stated, were Raychel to be admitted now she would recieve different treatment to that which she received in 2001, largely as a result of the review of her

case within Altnagelvin and the concerns that were identified. Therefore were she to admitted now, it would be the responsibility of the Trust to ensure that staff adhered to current guidelines and policies.

(vi) Who should have provided it?

The prescription of fluids and any blood tests would be performed by members of the surgical/and or anaesthetic team. Surgical review would have been performed by the surgical SHO. Monitoring of fluid balance would be provided by the nursing staff.

(vii) At what time(s) should it have been provided?

Raychel should have been reviewed 12 hours post-operatively as she still required IV fluids.

(28) *"On the evening of Sunday 10th June I received a phone call from my colleague Mr. Neilly. During that conversation he mentioned that there had been an unexpected death of a child following an appendicectomy. He had not been directly involved and was under the impression that the child had not been under my care but under the care of another consultant."* (Ref: WS-044/1 page 4)

(a) Did Mr. Neilly identify the name of the deceased child to you, or did you ask for the name of the child?

Not that I recall.

(b) Which consultant did Mr. Neilly believe was responsible for the care of the deceased child?

Mr. Thompson

(c) Had you any concern that the child who had died may have been under your care?

No

(d) When Mr. Neilly told you about the unexpected death of the child, what steps, if any, did you take to obtain further information about the death?

As I had no reason to suspect that the child who had died was under my care the conversation was non-specific. My recollection is that Mr. Neilly was not appraised of all the details of the childs death and was not aware of the cause of death.

(e) Explain why you did not discover until the 11th June 2001 that the child who had died unexpectedly was Raychel Ferguson, a child who had been admitted under your care?

Having been told that the child who died was not under my care I had no reason to make further enquiries on the evening of Sunday 10th June.

(29) *"Further changes on policy with regards the timing of ward rounds in ward 6 was agreed and issued on 2nd May 2003* (Ref: 021-044-091). *This memo recommended that the on-call surgical team would attend ward 6 first thing each morning to review the paediatric patients. However, in practice this policy proved impossible as there were often much sicker patients, in other clinical areas, which demanded the immediate*

attention of the on-call team. Nevertheless, other policies regarding the type of fluid used and the measurement of Electrolytes are strictly followed. Furthermore, the recent changes to surgical practice with the introduction of the surgeon of the week as I have previously outlined means that paediatric patients are often reviewed promptly." (Ref: WS-044/1 page 5)

(a) How long was the policy applied for (ie. the policy of attending ward 6 to review the paediatric patients first thing each morning) before it was realised that it was unworkable?

I do not recall the exact time scale.

(b) Was the practicability of the policy the subject of discussions before it was deemed unworkable, and if so,

(i) Who was involved in these discussions?

As far as I can recall the discussions were informal and were between various Consultant Surgeons

(ii) When did they take place?

I have no recollection of the time and place of these discussions as they were informal.

(iii) What conclusions were reached?

This policy (012-044-091) was introduced because the paediatric ward indicated that there were occasions when a surgical ward round had not been conducted. The Consultants agreed that all paediatric surgical patients should be seen daily and whilst review of these patients early in the morning was good practice, a policy that mandated that these patients were reviewed by the on-call surgeon first thing in the morning regardless of other clinical priorities could potentially place other patients at risk.

(c) Was the policy (regarding the attendance at ward 6 first thing in the morning) formally amended, and reissued?

Not that I am aware.

If so,

(i) Who was responsible for amending the policy and reissusing it?

(ii) When was this done?

(iii) What did the amendment say?

(d) In circumstances where it was found that visiting ward 6 first thing in the morning to review paediatric patients was unworkable, was an alternative approach put in its place? If so, what was that alternative approach?

The consultants would ensure that all paediatric surgical patients were reviewed on the morning ward round.

(e) What are the current (2012) arrangements for attending ward 6 to review paediatric patients who are in receipt of intravenous fluids?

I do not know as I no longer work in Altnagelvin.

IV. QUERIES ARISING OUT OF YOUR DEPOSITION FOR THE INQUEST INTO RAYCHEL'S DEATH (Ref: 012-038-176)

(30) You are recorded as telling the Inquest into Raychel's death that,

"I , as a member of the surgical team would not expect to be told if a child vomited only once or twice. If more than that I would expect to be told." (Ref: 012-038-177)

(a) Confirm whether your evidence to the Inquest has been accurately recorded in this respect. If it has been inaccurately recorded please clarify the evidence that you gave on this point.

I presume this evidence has been accurately recorded although I cannot specifically recall what I said at that time. However, having had time to reflect on that answer I do not think it is a fair reflection of my opinion in this matter.

To put an exact figure on the number of times a child has to vomit before a member of the surgical staff is informed as I have suggested in my statement is misleading and I apologise. The significance of the vomiting depends not only on the number of vomits but also their timing and the volumes involved. Furthermore the assessment of the amount of vomiting is subjective in that children often vomit unexpectantly and therefore the volume cannot be measured accurately. In addition the volume of vomiting and its significance will, to a certain extent, differ depending on the age and size of the child. Thus, for example, 3 episodes of vomiting mouthfuls in quick succession following the introduction of oral intake within a few hours of an anasethetic would be commonplace and therefore not a reason for medical intervention whereas 2 episodes of vomiting "large" amounts 48 hours following an appendicectomy may be very significant and indicative of the development of a complication meriting the assessment of the patient by a doctor. I think it is impossible to create accurate protocols to cover all these eventualities and there needs to be a certain reliance on the experience of the nursing staff to inform the medical staff when they think that the level of vomiting is out of the ordinary for a particular situation. I will answer the following questions in the light of my comments above in the assumption that medical staff should be informed where there is concern about the level of vomiting.

(b) Upon the assumption that your evidence has been accurately recorded, please address the following matters:

(i) Who would you expect to make the report that a (post-operative) child had vomited more than twice?

The nursing staff should report to the surgical team if they have concern with regards the amount of vomiting.

(ii) In your evidence to the Inquest, did you mean to suggest that you as the Consultant Surgeon should be told that a child had vomited more than twice?

No.

(iii) If not, who in the surgical team should be told that a child has vomited more than twice?

If there is concern about the amount a child is vomiting then I think the Surgical Senior House Officer should be contacted.

(iv) Why is it important that you and/or a member of the surgical team should be told that a child has vomited more than twice?

It is important that a member of the surgical team is contacted about a child who has had significant vomiting so that they can make an assessment of the child in order to ascertain the cause of the vomiting and treat the vomiting appropriately.

(v) In 2001, what steps would you have expected a member of the surgical team to have taken in circumstances where they had been advised that a child had vomited more than twice?

In 2001 I would have expected a member of the surgical team, having been advised that a child was vomiting excessively post-operatively, to review the child, assess the extent of the vomiting if possible, assess the degree of dehydration where possible and resuscitate the child as required. It would be reasonable to expect a U&E (blood test to look for abnormalities in urea and electrolyte balance) to be performed. An assessment should also be made as to the cause of the vomiting.

(vi) In 2012, would you expect a different response from a member of the surgical team who had been told that a child had vomited more than twice, as compared with the expected response in 2001?

Yes.

(vii) If so, explain why you would expect a different response in 2012 as compared with what would have been expected in 2001.

I would expect a different response because of the knowledge of post-operative hyponatraemia and the guidance that has now been disseminated in reponse to our concerns about Raychel's case. I would now expect that if a child were unable to tolerate oral fluids or was still vomiting after 12 hours, even if that vomiting were not considered to be excessive, that a surgical review would take place and a U& E requested at that time.

(31) You are recorded as telling the Inquest into Raychel's death that,

"In Raychel's case an emetic was prescribed. Zofran did not control it so Valoid was tried. I believe the doctor should have noted the extent of the vomit if that was possible. I do not think a blood test should have been carried out at that stage. It is not usual practice to measure urine output following an appendectomy in a child." (Ref: 012-038-177)

(a) Confirm whether your evidence to the Inquest has been accurately recorded in this respect. If it has been inaccurately recorded please clarify the evidence that you gave on this point.

I presume this evidence has been accurately recorded although I cannot specifically recall what I said at that time.

(b) Upon the assumption that your evidence has been accurately recorded, please address the following matters:

(i) Which doctor(s) were you referring to when you stated that *"the doctor should have noted the extent of the vomit if that was possible."*

I do not think that either of the two JHOs who were asked to prescribe anti-emetics would be expected to assess the extent of vomiting if the nursing staff did not appear to have concerns that the vomiting was excessive for a child within the first 24 hours following appendicectomy. I do think that if a member of the surgical team were informed that a child had been vomiting excessively that an attempt should be made to assess the volumes being lost although from the information routinely recorded in 2001 that would be a rough estimate at best.

(ii) Why was it important to have noted the extent of the vomit if that had been possible?

So that losses could be replaced accurately.

(iii) Where you state that you *"do not think that a blood test should have been carried out at that stage,"* what time are you referring to?

At either of the times when the JHO was asked to prescribe an anti-emetic.

(iv) Fully explain why a blood test was not indicated at that stage?

In 2001 I would not have expected a blood test to be performed unless there were concerns that a child had excessive vomiting and that they might be becoming dehydrated.

(v) At what stage/time was a blood test indicated, and why?

In 2001 a blood test would be indicated if there were concerns that a child had excessive vomiting and that they might be becoming dehydrated. Following the review of Raychel's case a policy was introduced that all children should have a U&E performed if they have required IV fluids for more that 12 hours post-operatively.

(vi) You have stated that it was *"not usual to measure urine output following an appendedctomy in a child."* Why was that the case?

Because the majority of children post appendicectomy would have been established on a normal diet and had IV fluids discontinued within 24 hours.

(vii) Do you know why in the episodic care plan for Raychel it was stated that there was a need to *"observe/record urinary output?"* (Ref: 020-027-063)

No

(viii) Do you know why Raychel's urinary output was not recorded at any time after 10.00 on the 8th June 2001?

It was not standard practice to record the urinary output in children post-appendicectomy.

(32) You are recorded as telling the Inquest into Raychel's death that,

"Continuing vomiting is a cause for investigation. I cannot assess what was done at that time as I was not there." (Ref: 012-038-178)

(a) Confirm whether your evidence to the Inquest has been accurately recorded in this respect. If it has been inaccurately recorded please clarify the evidence that you gave on this point.

I presume this evidence has been accurately recorded although I cannot specifically recall what I said at that time.

(b) Upon the assumption that your evidence has been accurately recorded, please address the following matters:

(i) Explain fully why continuing vomiting is a cause for investigation.

Continued vomiting is a cause for investigation as it may indicate an underlying disease process.

(ii) What steps would you expect to see taken as part of an investigation in relation to a patient's continuing vomiting?

The investigation required would entirely depend on the patient's clinical history and findings at that time.

(iii) Allowing for the fact that you were not present at the time when Raychel was vomiting, have you seen anything in her particular case which would indicate that her continuing vomiting was not a cause for investigation?

Raychel's vomiting during the daytime of 8th June 2001 was almost certainly related to the post-operative effects of having an appendicectomy and this would not require investigation. However, we now know that she was becoming hyponatraemic and it is likely that the vomiting that occurred in the evening around the time that she developed headache was due to increased intra-cranial pressure related to the hyponatraemia. The changes to practice introduced following the critical incident

review would have ensured that a U&E would have been performed after 12 hours of post-operative IV fluids which would have alerted the clinicians to the developing hyponatraemia.

(iv) Did you take any steps after Raychel's death to establish whether the cause of her vomiting was investigated?

Following Rachel's death a critical incident review took place which reviewed all aspects of Rachel's care.

(v) Fully describe any steps you took in this respect, and the findings which you reached.

I participated in the critical incident review at which time her clinical notes were reviewed. There were no investigations carried out to establish a cause for her vomiting. Following her acute deterioration in the early hours of 9th June 2001 a number of investigations were carried out but these were directed at establishing a cause for her deterioration rather than specifically for the vomiting.

(33) You are recorded as telling the Inquest into Raychel's death that,

"The nurses did not feel the vomiting sufficiently severe to warrant reporting to Mr. Zafar and the JHO did not feel he needed to consult a more senior colleague. I cannot decipher the signature of the doctor prescribing the Valoid - it could have been any doctor on duty. The senior SHO would not needed to have been informed nor would I have expected him to do a repeat call." (Ref: 012-038-178)

(a) Confirm whether your evidence to the Inquest has been accurately recorded in this respect. If it has been inaccurately recorded please clarify the evidence that you gave on this point.

I presume this evidence has been accurately recorded although I cannot specifically recall what I said at that time.

(b) Upon the assumption that your evidence has been accurately recorded, please address the following matters:

(i) Please explain how you reached the conclusion that the nurses did not feel that the vomiting was sufficiently severe to warrant reporting to Mr. Zafar?

I conclude that from their actions. Two separate PRHOs were asked to administer intravenous anti-emetics. There is no indication in the nursing or medical records that the nursing staff asked either PRHO to review the patient because they had concerns about the level of vomiting. If they had had concerns that they felt could not be addressed by the PRHO then they could have called the surgical Senior House Officer.

(ii) Have you been able to establish why the nurses did not feel the vomiting was sufficiently severe to warrant reporting to Mr. Zafar? If so, fully explain why the nurses did not feel the need to report the matter to Mr. Zafar.

I do not recall any specific discussions with the nursing staff concerning their views with regards the vomiting. I have however read the testimonies of the nursing staff to

the Coroner's inquest which indicate that they did not have concerns about the amount of vomiting.

(iii) After Raychel's death did you take steps to bring to the attention of the nursing team your view that continuing vomiting is a cause for investigation, and that you would expect to be told where a child has vomited more than twice?

No. I have addressed the issue of the views I expressed to the coroner concerning the correctness of attempting to place an exact value on the number of times a child would need to vomit before medical staff are called. I believe this remains a matter of judgement and experience. However, as a result of the critical review of Raychel's care, Altnagelvin did revise the fluid balance sheet used in the paediatric ward so that the volume of vomiting could be recorded. I am not aware of any policy or guidelines issued by Altnagelvin which advised nursing staff with regards to when they should inform the medical staff about the volume of vomiting other than the need to inform medical staff if a child was still requiring IV fluids 12 hours post-surgery.

(iv) If so, outline the steps that you took and who you spoke to about this issue.

(v) Please explain how you reached the conclusion that the JHO did not feel the need to consult a more senior colleague?

I concluded this from the fact that they did not, to my knowlede, call a more senior colleague.

(vi) If you spoke to any JHO before reaching this conclusion, please identify who you spoke to.

I do not recall any specific discussions with either of the JHOs on this matter

(vii) Have you been able to establish why the JHO did not feel the need to consult a more senior colleague? If so, fully explain why he did not feel the need to consult with a more senior colleague.

No.

(viii) In this respect, please clarify who you spoke to in order to reach that view?

(ix) As appears from (Ref: 020-017-034), the doctor who prescribed the Valoid was Dr. Michael Curran (JHO, Surgical). After Raychel's death did you take any steps to establish who on the surgical team had attended with Raychel in the hours before her seizure?

Not to my recollection.

(x) If so, outline the steps that you took?

(xi) Did you speak to Dr. Curran after Raychel's death, and if so, what did you discuss with him?

I do not recall any specific discussions with Dr. Curran.

(xii) Outline all of the factors relied upon by you to support your opinion that the SHO would not have needed to be informed.

At that time in 2001, I would not have expected the SHO to be informed about a child vomiting unless there was concern about the extent of the vomiting or about the clinical progress of the patient in general. Following our review, the SHO would now be informed automatically if a child was vomiting or requiring IV fluids for more than 12 hours post-operatively.

(xiii) Outline all of the factors relied upon by you to support your opinion that the SHO would not have needed to do a repeat call.

It was not standard practice in 2001 to do a repeat call on a child who appeared to be be making satisfactory progress on the morning ward round. Subsequent to 2001, any child requiring IV fluids for more than 12 hours post-operatively would be reviewed.

(34) *"I only became aware of hyponatraemia after the death of Raychel."* (Ref: 012-038-178)

(a) Confirm whether your evidence to the Inquest has been accurately recorded in this respect. If it has been inaccurately recorded please clarify the evidence that you gave on this point.

I presume this evidence has been accurately recorded although I cannot specifically recall what I said at that time.

(b) Upon the assumption that your evidence has been accurately recorded, fully explain what you meant when you said that you only became aware of hyponatraemia after Raychel's death, and explain how you became aware of it.

Dilutional hyponatraemia is rare. At the time of Raychel's death I had never encountered a case and there were no regional policies on its prevention or treatment. With regards to becoming aware of dilutional hyponatraemia as a cause of Raychel's death, I believe there had been discussion between our own medical staff and the doctors in the RBHSC about the probable cause of Raychel's death. I believe I was made aware of that discussion sometime on the 11th June although I cannot recall from whom I got this information. Dilutional hyponatraemia as a probable cause of Raychel's death was discussed at the critical incident meeting called by Dr Fulton on 12th June. The dangers of the use of low electrolyte IV infusions were reviewed by Dr Nesbitt and the changes in policy outlined above were put in place. The Trust also contacted the Department of Health with regards our concerns about fluid management in post-operative children. The Department of Health subsequently produced guidelines so that lessons learned from this tradgedy could be disseminated more widely.

V. QUERIES IN RELATION TO THE WORKING ARRANGEMENTS OF THE SURGICAL TEAM AT ALTNAGELVIN HOSPITAL IN JUNE 2001

(35) In 2001 were preregistration junior house officers (such as Dr. Devlin and Dr. Curran) placed in the role of being first in line for responding to nursing concerns in relation to surgical patients? If so, please address the following matters:

(a) Who was responsible for implementing this arrangement?

This was standard practice at that time.

(b) Who approved this arrangement?

I do not know.

(c) What support was available for preregistration junior house officers in this role?

In normal office hours JHOs would be supported by members of the surgical team (usually Senior House Officers or Registrars but occasionally they would be directly supported by the Consultants). Out of hours there was always a Senior House Officer resident on call in the hospital who was available for advice or to attend a patient as required. If they were unavailable then the JHO could contact the registrar or the Consultant.

(36) If preregistration junior house officers were not placed in the role of being first in line for responding to nursing concerns about surgical patients, please describe the key features of the arrangements that were in place for dealing with nursing concerns in relation to surgical patients and please explain how this was managed?

(37) In 2001 were arrangements in place to permit junior members of the surgical team (such as JHOs and SHOs) to communicate with and seek advice from more senior members of the surgical team such as the Consultant or the Specialist Registrar?

Yes.

If so,

(a) How did those arrangements operate?

The Registrars and Consultants contact details would be with the switch board and they could be contacted as required.

(b) How were junior members of the surgical team told about those arrangements?

I am not aware of any specific meeting or document which specifically described how to communicate or seek advice from senior members of staff.

(c) What were they told?

(38) In 2001 were there any circumstances in which junior members of the surgical team (such as JHOs and SHOs) were expected or required to communicate with and seek advice from more senior colleagues in the surgical team?

Yes.

If so,

(a) In what circumstances were they expected or required to communicate with and seek advice from more senior colleagues?

They were expected to communicate and seek advice from more senior colleagues in any situation which they felt they could not deal with competently.

(b) What arrangements were in place to facilitate the provision of advice to junior members of the surgical team?

Senior members of the team (registrars and consultants) were always available for advice and could be contacted as required.

(c) How were junior members of the surgical team told about those arrangements?

These arrangements were standard working practices. I am not aware of any specific meeting or document within Altnagelvin which specifically described to junior members of the surgical team how to communicate or seek advice from senior members of staff.

(d) What were they told?

(39) In 2001 were there any circumstances in which junior members of the surgical team (such as JHOs and SHOs) were expected or required to report the condition of a patient to more senior colleagues in the surgical team?

Yes

If so,

(a) In what circumstances were they expected or required to report the condition of a patient to a more senior colleague?

They were expected to report the condition of a patient to a more senior colleague in any situation which they felt they had reached the limits of their competence.

(b) What arrangements were in place to facilitate junior members of the surgical team in their efforts to report the condition of patients to more senior members of the surgical team?

Senior members of the team (registrars and consultants) were always available for advice and could be contacted as required.

(c) How were junior members of the surgical team told about those arrangements?

These arrangements were standard working practice. I am not aware of any meeting or

document within Altnagelvin which specifically described to junior members of the surgical team how to communicate or seek advice from senior members of staff.

(d) What were they told?

(40) In 2001, were arrangements in place for the supervision of the work of junior surgeons?

Yes.

If so,

(a) Describe the main features of the supervision arrangements.

During normal working hours junior surgeons were under the supervision of the Consultant in whose team they were working. Out of hours they were under the supervision of the "on call" consultant.

(b) Who carried out the role of supervisor?

As above.

(c) How was this role performed?

By direct or indirect observation of the junior surgeons work and by being available for consultation or direct clinical care when required.

(41) Clarify whether there were any arrangements in place in 2001 to allow members of the surgical team in Altnaglevin to obtain paediatric medical advice or assistance for the care of a surgical patient?

Yes

If so, please address the following matters:

(a) Were these arrangements formal or informal?

These arrangements were informal.

(b) Describe the main features of those arrangements?

Any member of the surgical team could speak to or seek advice from any member of the paediatric medical team. As paediatric surgical patients were cared for in the same ward as the paediatric medical patients, there was almost always a member of the paediatric medical team on the ward who could be asked for assistance as required. There was frequently informal contact on the ward between members if the paediatric and general surgical teams.

(c) Was paediatric medical advice and assistance available upon request to surgical junior house officers and surgical senior house officers caring for surgical patients on Ward 6?

Yes.

If so, please address the following:

(i) How was a JHO or a SHO expected to make a request for paediatric medical advice or assistance?

They would ask for advice.

(ii) To whom was a request to be directed?

During office hours a request could be made to any member of the paediatric medical team (SHOs or registrars). Out of hours the request would normally be directed to the on call paediatric SHO.

(iii) On what matters could paediatric medical advice or assistance be requested by a JHO or SHO?

They could ask for advice on any matter that they deemed required the expertise of a paediatrician rather than a surgical doctor.

(iv) How was a JHO or SHO advised of the arrangements by which they could make a request for medical advice or assistance?

These arrangements were standard working practice. I am not aware of any meeting or document within Altnagelvin which specifically described to junior members of the surgical team how to request medical advice or assistance.

(v) Do you know whether any consideration was given by any member of the surgical team to seeking the input of a paediatrician at any time before Raychel's seizure (when Dr. Johnston was asked by nurses to attend)?

No consideration was given to seeking medical advice in Raychel's care as far as I am aware.

(vi) In general, were any arrangements in place to promote good communications between the paediatric medical team and the surgical team with regard to the care of surgical patients? If so, please describe those arrangements.

The arrangements that were in place were those out-lined in the GMCs Good Medical Practice which states that all doctors must be willing to consult colleagues.

VI. QUERIES ON THE ISSUE OF FLUID MANAGEMENT

Please provide clarification and/or further information in respect of the following:

(42) With regard to the period before June 2001, provide full details of any advice, training or instruction which was provided to new members of the surgical team at Altnagelvin Hospital in order to inform them of any of the following matters:

Prior to June 2001 there was no formal advice, training or instruction provided to new members of the surgical team.

- Hyponatraemia
- Post-Operative Fluid Management
- Record keeping regarding fluid management

And address the following:-

(a) Who provided this advice, training or instruction to you?

I was not instructed on any of these matters on joining Altnagelvin as a Consultant.

(b) When was it provided?

(c) What form did it take?

(d) What information were you given?

(e) In particular what information were you given in relation to the allocation of responsibility for prescribing intravenous fluids for post-operative children?

(43) In June 2001 who in Altnagelvin Hospital was responsible for organizing the structure and allocation of responsibilities for post-operative fluid management for paediatric cases?

In 2001 there was no formal structural organisation with regards the management of post-operative fluids in children other that the standard working practices which I have already out-lined

(44) Prior to 9th June 2001:

(a) State your knowledge and awareness of the cases of Lucy Crawford, Claire Roberts, or Adam Strain, and the issues arising from those cases.

I had no knowledge of these cases.

(b) State the source(s) of your knowledge and awareness and when you acquired it.

(c) Describe how that knowledge and awareness affected your care and treatment of Raychel.

(45) Since 9th June 2001:

(a) State your knowledge and awareness of the cases of Lucy Crawford, Claire Roberts or Adam Strain, and the issues arising from these cases.

Since June 2001 I have become aware of the cases of these 3 children and the fact that all died as a result of hyponatraemia.

(b) State the source(s) of your knowledge and awareness and when you acquired it.

I do not know the exact sources of this knowledge or the timing of how it was acquired. Some knowledge was acquired as a result of general discussion with colleagues, some as a result of the UTV program in October 2004, and some as a result of this public inquiry.

(c) Describe how that knowledge and awareness has affected your work.

Knowledge of these cases has not influenced my practice in any way. Alterations to my practice came about as a result of the critical incident review held in Altnagelvin after Raychel's death where changes in practice were instigated within a few days of her death. The guidelines issued subsequently by the Department of Health, which were developed as a result of our communication with the DoH following Raychel's death, also influenced practice.

(46) Prior to Raychel's death were you aware of the literature which highlighted the dangers posed by the administration of hypotonic fluids to children during the immediate post operative period? eg. Arieff AI, Ayus JC. British Medical Journal 1992: 304; 1218-1222. Hyponatraemia and death or permanent brain damage in healthy children, or Halberthal M, Halperin ML, Bohn D. British Medical Journal 2001: 322; 780-782. Lesson of the week: acute hyponatraemia in children admitted to hospital: retrospective analysis of factors contributing to its development and resolution.

No.

(47) Describe in detail the education and training you have received in fluid management (in particular hyponatraemia) and record keeping, to include any particular training relating to fluid management in children, and provide dates and names of the relevant institutions/bodies, by reference to the following:

(a) Undergraduate level.

In first year at QUB a considerable part of the year was devoted to lectures on physiology which would have included lectures on fluid and electrolyte balance including the causes of hyponatraemia. The practical aspects of fluid management including the prescription of fluids would have been taught at ward level. I do not recall any training, formal or informal, during my undergraduate career which highlighted the dangers of dilutional hyponatraemia in post-operative children.

(b) Postgraduate level.

Following qualification there would have been further informal instruction during my JHO year on the prescription of fluids. Physiology formed one third of the FRCS (part 1) examination, which I passed in my first year of surgical training. This will have required

further reading around the subject of fluid and electrolyte balance. I also completed a year's training in paediatric surgery. I do not recall any training, formal or informal, during my postgraduate career which highlighted the dangers of dilutional hyponatraemia in post-operative children

(c) Hospital induction programmes.

These programs were not in place during my post-graduate training.

(d) Continuous professional development.

Prior to June 2001, I do not recall attending any conference or reading any information about the dangers of post-operative hyponatraemia in children.

(48) In June 2001 were you aware of the factors that could cause an electrolyte imbalance in a paediatric patient following surgery? If so, please identify those factors.

Yes. I was aware that excessive vomiting or diarrhoea could cause an electrolyte imbalance. I was not aware of the risks of infusing hypotonic solutions in children post-operatively.

(49) In 2001, what did you regard as the appropriate way to manage a child who was experiencing prolonged vomiting after surgery, and who was in receipt of hypotonic intravenous fluids? Please set out all the steps that a doctor should have taken in those circumstances.

In 2001 No. 18 solution was thought to be the appropriate fluid to use in post-operative children. There was a lack of understanding of the dangers of using low solute solutions in general and specifically the need to replace gastrointestinal fluid losses with an isotonic solution. There was also a lack of understanding of the rapidity with which severe hyponatraemia could develop in post-operative children. Thus in 2001 a child who had vomiting post-surgery would require to be treated symptomatically with anti-emetics and IV fluids with oral fluids being introduced as tolerated. If the vomiting persisted despite these measures then I would expect the child to be fasted and IV fluid resuscitation to continue in the anticipation that the vomiting would settle. If the child had continued to vomit for more than 24 hours then I would have expected the medical staff to check the U&E, continue IV fluids resuscitation and consider whether the child had developed an early post-operative complication such as an ileus, an early obstruction, or an intra-abdominal infection.

(50) In 2001, what did you understand were the possible dangers for a child who was experiencing prolonged vomiting after surgery and who was in receipt of hypotonic intravenous fluids?

In 2001 I was not aware of the risks of infusing hypotonic solutions in children who had prolonged vomiting post-operatively.

(51) Prior to 9th June 2001, describe in detail your experience of dealing with children with hyponatraemia, including the:

(a) Estimated total number of such cases, together with the dates and where they took place.

None.

(b) Nature of your involvement.

(c) Outcome for the children.

(52) Since 9th June 2001, describe in detail your experience of dealing with children with hyponatraemia, including the:

(a) Estimated total number of such cases, together with the dates and where they took place.

None

(b) Nature of your involvement.

(c) Outcome for the children.

V GENERAL

Please address the following:

(53) On 3 September 2001 the Chief Executive convened a meeting with the Ferguson family.

(a) Were you advised that this meeting was taking place?

Yes.

(b) If so, were you aware of the purpose of the meeting?

Yes.

(c) What was the purpose of the meeting?

The meeting was arranged for two reasons. Firstly to express to the Ferguson family the Trust's sympathy on the death of their daughter and secondly to answer questions that they might have as to the cause of their daughter's death and the reasons behind it.

(d) Explain why you as the consultant in charge of Raychel's care did not attend that meeting?

Firstly I had never met Raychel or her parents and had not developed any relationship with them. The other doctors who attended that meeting had been directly involved with caring for Raychel and had met her parents and I thought it would be easier for her parents to communicate with those whom they already knew especially in such difficult and emotional circumstances. Secondly, the cause of Raychel's death was due to problems with her electrolyte balance which I thought could be better explained by those who had researched the issue. Furthermore, Dr. Nesbitt had been instrumental in bringing about the changes in the way children's fluids were subsequently managed and I felt he would be best placed to explain these changes. Thirdly, whilst Raychel had died after an appendicectomy, her death was not directly due to an operative complication. From my

reading of the notes and discussion with my staff I did not have any concerns about either the decision to operate or the conduct of the procedure. Furthermore, I was not aware that family had any doubts about the diagnosis or the conduct of the surgery. I therefore did not anticipate that the family would have any questions or concerns in this area which I could I could have answered or clarified. Finally, I did not believe that anything I could have said at that meeting could in any way assuage that family's grief at the death of their only daughter.

(e) Explain why the surgical team was not represented at that meeting?

I was the only member of the surgical team who was advised of the meeting.

(54) Was Raychel's death reported to National Confidential Enquiry into Perioperative Deaths (NCEPOD)? If not, please explain why it wasn't reported.

I do not know. I was not the designated local reporter (Altnagelvin Hospital) for NCEPOD

If it was reported please address the following matters:

(a) Who made the report?

(b) How was the report made?

(c) Was any follow-up work carried out with the NCEPOD?

(55) What was the number of adult and child surgical admissions into Altnagelvin Hospital on Friday 8th June 2001? If you cannot answer this question for this specific date please provide the answer in respect of an average Friday in 2001, or subsequently.

Two children and 18 adults.

(56) Describe the surgical rota for Friday 8th June 2001, and indicate the number of surgical JHOs, SHOs, Specialist Registrars and Consultants who would have been on duty at any one time during that day. If you cannot answer this question for this specific date please provide the answer in respect of an average Friday in 2001.

I do not know. I have contacted Altnagelvin with regards this matter and I have been informed that the rota for this period is not available.

(57) In the period from 1999-2001 was a programme of training or induction provided to new members of the surgical team at Altnagelvin Hospital, and if so,

No

(a) Describe the training or induction which was provided.

(b) Identify the person(s) who was responsible for ensuring that a programme of training or induction was delivered to new starts.

(c) Identify the person who delivered the training or induction

(d) Indicate if new members of the surgical team were provided with any documentation at this training or induction, and the nature of that.

(e) Indicate the areas covered by any programme of training or induction for new starts.

(58) Provide any further points and comments that you wish to make, together with any documents, in relation to:

(a) The care and treatment of Raychel in Altnagelvin Hospital between the 7th-9th June 2001.

(b) Record keeping.

(c) Communications with Raychel's family about her condition, diagnosis, and care and treatment.

(d) Working arrangements within the surgical team and support for junior doctors.

(e) Lessons learned from Raychel's death and how that affected your practice at Altnagelvin or elsewhere.

(f) Current Protocols and procedures.

(g) Any other relevant matter.

All of those who were involved with Raychel's care, either directly or indirectly, were shocked and saddened by her death. I cannot conceive of the grief that her family must feel and I am very sorry that they have had such a burden to bear. As a team we understood that we had a responsibility to quickly, openly and honestly investigate her case in order to understand what had happened so as to ensure that, as far as possible, no child in our hospital or further afield would suffer the same fate and no family would have to endure such heartache.

THIS STATEMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF

Signed: Robert Gillett **Dated:** 13-7-12