Witness Statement Ref. No. 030/2

NAME OF CHILD: RAYCHEL FERGUSON

Name: Bernie Trainor

Title: Doctor

Present position and institution: Consultant Paediatrician Altnagelvin Area Hospital - WHSCT

Previous position and institution: Second Term Senior House Officer in Paediatrics, 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 30th September 2005]
NI Advisory Council for Diabetes until 2009
Diabetes Managed Clinical Network for NI from 2008
Foyle Shared Care Diabetes – from July 2007
NI Diabetes UK Children Camps. Committee – until 2009

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 30th September 2005]

OFFICIAL USE:
List of previous statements, depositions and reports attached:

Ref:	Date:	
030/2	30.09.2005	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) Describe your career history before you were appointed to Altnagelvin Hospital.
I worked as a Senior House Officer on the two year rotation in the Royal Belfast Hospital for Sick Children from 5/8/1998 - 1/08/2000.

During that time I was based in different locations - Cupar Street Community Paediatrics for 6 months followed by 3 months in Allen Ward (General Medical). I then spent time covering A&E, the paediatric surgical ward, neurology and genetics in the Belfast City Hospital. For the last six months, I was based in the Regional NICU in Royal Maternity Hospital.

(b) 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.

During my year in Altnagelvin as a Paediatric Middle Grade SHO, I covered the clinical areas where medical children or babies would be present such as the paediatric ward (ward 6), Day Case Unit (Ward 16), paediatric out patients, the neonatal unit, labour ward or A&E department.

(c) Describe your duties as Senior House Officer in Paediatrics at Altnagelvin Hospital on the 9th June 2001.

I cannot recall my exact duties in Altnagelvin on 9th June 2011, but as a middle grade SHO on the Registrar rota my duties would have involved reviewing patients on the ward round with the consultant, clerking new admissions, reviewing babies in the neonatal unit and providing emergency on-call cover after 5pm.

(d) How much experience did you have of working with patients on a Paediatric ward by the 9th June 2001?
By the 9th June 2001, I had worked as an SHO on the two year rotation in RBHSC and had worked as a middle grade SHO on the registrar Rota in Altnagelvin for 10 months.
During these three years, I had been involved in the care of neonates and children with a

variety of medical problems. I have also kept a log book of all practical procedures I performed.

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

As part of the two year rotation in RBHSC, I had worked as an SHO covering the Infant Surgical Unit and Barbour Ward – the Paediatric surgical ward. During my time there, I became familiar with many of the common surgical problems and the treatments instituted.

During my on-call in RBHSC and Altnagelvin as a medical SHO, I would occasionally have been asked to review surgical patients.

(2) At the time of your appointment to Altnagelvin Hospital were you provided with training or induction and if so,

(a) Describe the training or induction which you received.
I do remember when I started in Altnagelvin attending the hospital and Paediatric induction but I am unable to recall what was covered in these sessions.

(b) State the date or the approximate date when you received any training or induction.

Induction is held on the first Wednesday of the changeover of new doctors so would have been the first Wednesday in August 2000.

(c) Identify the person(s) who delivered this training or induction.
I am unable to recall this information.

(d) Indicate if you received any documentation at this training or induction.
I am unable to recall whether I received any documentation.

(3) Provide full details of any advice, training or instruction which was provided to you at Altnagelvin Hospital in order to inform you of any of the following matters:

- Hyponatraemia
  I am unable to recall any training provided in relation to Hyponatraemia.

- Post-Operative Fluid Management
  I was not directly responsible for post-op fluid management. This was undertaken by the surgical team.

- Record keeping regarding fluid management
  I am unable to recall any specific advice or training provided about record keeping regarding fluid management but I was aware of how to prescribe fluids and that children on fluids needed at least once daily electrolytes.

And address the following:-

(a) Who provided this advice, training or instruction to you?
I am unable to recall.

(b) When was it provided?
I am unable to recall.

(c) What form did it take?
I am unable to recall.

(d) What information were you given?
I am unable to recall.

(e) In particular what information were you given in relation to the allocation of responsibility for prescribing intravenous fluids for post-operative children?
Intravenous fluids for postoperative children were normally prescribed by the surgical team.

II. QUERIES ARISING OUT OF YOUR INITIAL STATEMENT TO THE INQUIRY (WS-030/1)

(4) What time had you started working on the 8th/9th June 2001?
As far as I can recall, I started work at 09.00 on 8 June 2001.

(5) In what locations did you work after you came on duty on the 8th/9th June 2001?
I am unable to recall exactly but I would been covering the paediatric ward, neonatal unit, Day Case unit and providing emergency cover for labour ward and A&E.

(6) Had the case of Raychel Ferguson been referred to you by either nursing staff or any member of the surgical team at any time before 04.15 on the 9th June 2001?
No.

(7) If you had been asked would you have been available to be consulted in relation to Raychel's condition at any time before 04.15 on the 9 June 2001?
Yes.

(8) *"When I arrived on Ward 6, the Surgical Junior House Officer was checking Raychel Ferguson's blood results on the computer and I noted that her sodium was low at 119 and potassium was 3.* (Ref: 020-022-044.) *No other results were available. I immediately asked if the blood sample had been taken from the same arm where the drip was running because this was a very abnormal result but I was told this was not the case. I told the junior officer to urgently repeat the electrolytes, do blood cultures and a venous gas, which he did."* (Ref: WS-030/1, page 2)

(a) Did the absence of any more senior member of the surgical team have any implications for your management and treatment of Raychel?
I knew when I reviewed Raychel that she was very unwell and I immediately requested the assistance of Doctor McCord, the paediatric consultant because I felt he was the best person to assist me with Raychel's management.

(b) Did you query the absence of a representative from the senior surgical team?
I did not as I was so busy looking after Raychel as she was so unwell.

(c) In what circumstances would the Consultant Surgeon be asked to attend a patient?
I cannot recall whether the consultant surgeon was contacted to review Raychel overnight. The consultant Surgeon should be called if a surgical patient is unwell or a child has an acute surgical problem and the junior surgical team or nursing team request him/her to attend for advice or support.

(d) Having established that Raychel's sodium was low at 119, what consideration did you give at that stage to taking the following steps, rather than waiting on repeat results:

(i) Administering mannitol; and/or
I queried whether the sodium reading 119 was correct and waited for the result of the repeat urgent sample. I was concerned that Raychel could have Meningococcal septicaemia in view of the petechiae and gave her antibiotics.
I did not consider to give her mannitol.

(ii) Stopping Solution 18 and administering a hypertonic saline solution.
I queried whether the sodium reading of 119 was correct and waited for the result of the second repeat sample.

When the repeat sodium was also low, the solution 18 was stopped and Raychel was given 0.9% normal saline at 40ml/hour

(9) *"We then got back the results of the repeat electrolytes and discovered that the sodium was 118 and magnesium 0.59.* (Ref: 020-022-043.) *Fluids were then changed to 0.9% sodium chloride and the rate reduced to 40 ml per hour in keeping with fluid restriction if the sodium is low.* (Ref: 020-019-038.)" (Ref: WS-030/1 page 2)

(a) Did you make the calculation recorded at the top of the document at (Ref: 020-019-038)?
I did make the calculation at the top of the document. (Ref. 020-019-038)

If so, fully explain the calculation that you have made.
Raychel's weight was 25kg
for maintance fluids, the rate is calculated by:-
for the first 10kg - 4ml/kg/hour = 40
for the second 10kg - 2 ml/kg/hour = 20
for each kg over 20kg - 1ml/kg/hour = 5

65

Full maintance fluids were 65ml/hour.
I wanted Raychel to have 0.9% normal saline and her fluid be restricted to 2/3 maintainance amounts so I calculated 40ml/hour.

(10) You wrote a note in relation to your attendance with Raychel at [Ref: 020-015-024].

(i) This is Ref 020-015-024 explained - on examination of Raychel she sounded rattly and I queried whether she had aspirated. Her chest had transmitted sounds and her abdomen was soft. Her limbs were flaccid and she was not hypertonic. Planters were both downgoing.

My impression was that she possibly had a seizure secondary to an electrolyte problem or had a cerebral lesion. I was aware her sodium was low at 118, her magnesium was low at 0.59, potassium was low at 3 and calcium was normal.

Repeat urgent electrolytes, calcium, magnesium had been taken and a venous gas, blood cultures and blood count had been taken too.

Raychel was given face mask oxygen and placed on her side and was transferred into the ward 6 treatment room. Doctor McCord had been contacted and I had asked him to come to Ward 6 urgently.

In the treatment room Raychel's saturations were initally 99% on 8 litres of oxygen. Saturations then fell to 80% and her respiratory effort was so poor that the anaesthetist was fast bleeped. I commenced bag-and-mask ventilation and the anaesthetist intubated Raychel when she arrived with a size 6 endotracheal tube

Blood for meningococcal PCR and antibodies were also taken. Raychel was given intravenous antibiotics – cefotaxime + benzylpenicillin. She was also catheterised with a size 10 foley catheter and 5ml water was inserted into the balloon. Fluids had already been changed to 0.9% normal saline at 40 ml/hour. She was given 1 ml of 50% magnesium sulphate intramuscularly. An urgent CT brain scan had also been organised during this time. I signed the bottom of the page.

(b) Part of the note included: *"Imp? Seizure 2° electrolye problem ? cerebral lesion."* Did you give consideration, then or subsequently, to what it was that could have caused this electrolyte problem in Raychel?

I cannot recall my exact thinking at that time. I was aware Raychel's sodium was low and had probably contributed to her having a seizure. I was also concerned she could have Meningococcal septicaemia or intracranial lesion.

(c) If so, what factors did you consider could have caused this electrolyte problem in Raychel's case?
I was aware there was an electrolyte problem but cannot recall what factors I considered that caused this electrolyte problem.

(d) Did you discuss the causes of the electrolyte problem in Raychel's case with anyone else, then or subsequently, and if so,

(i) Who did you discuss these issues with?
When Raychel's repeat sodium returned at 118, I discussed this result with Doctor McCord.

(ii) When did you discuss these issues?
The sodium result of 118 was discussed when the result returned.

(iii) What did you discuss?
The need to change the fluids and fluid restrict. A CT brain was also being urgently arranged.

(iv) What conclusions did you reach?
The Solution 18 was stopped and Raychel was commenced on 0.9% normal saline at 40ml/hour. An urgent CT brain was awaited. An anaesthetist was already present as Raychel had been intubated and as she was very unwell, we knew she needed to be transfered to PICU at Royal Belfast Hospital for Sick Children.

(v) Did you take any action on foot of the conclusions that you reached?
See (IV) above.

III. INTERRACTION WITH NURSING STAFF AND SURGICAL STAFF

(11) In 2001, how many members of the paediatric team would have been based at or near ward 6 of Altnagelvin Hospital, and what were their grades?
In 2001, the paediatric team in Altnagelvin consisted of SHO's, middle grade SHO's, Registrars and consultants.

I cannot recall exact numbers of the different grades.

(12) In your experience of working as a paediatric medical SHO in Altnagelvin, clarify whether a member of the paediatric team would have been a constant presence on or near ward 6?

If not,

A member of the Paediatric Team was not a constant presence on the ward but would have been on site.

(a) Explain how the Paediatric team worked by reference to location;
For daytime cover, the Paediatric team had a weekly Rota and staff were designated to cover different clinical areas.
From 5pm, it was emergency cover.

(b) Explain the circumstances in which a member of the team could come to be present on ward 6;
During 9am - 5pm, there usually would have been a member of the Paediatric team on Ward 6. After 5pm and at weekends, there was on SHO, registrar and consultant on call and they would be in ward 6 if patients needed to be admitted or reviewed.

(c) Specify where members of the Paediatric team would generally be located if not in ward 6;
The members of the Team could be in NICU/DCU/Outpatients/Labour Ward/A&E.

(d) Clarify how a member of the nursing team working in ward 6 could contact a member of the Paediatric team if not in ward 6?
The nursing staff could bleep any member of the team or ring through to another clinical area and ask to speak to the doctor there.

(13) Was there any practice or policy in operation in Altnagelvin in 2001 which would have prevented nursing staff from asking a member of the paediatric team,

(a) To advise in relation to a surgical patient;
No. But please see my answer at (e) below.

(b) To examine a surgical patient;
As above

(c) To prescribe for a surgical patient;
As above

(d) To carry out tests, such as to take bloods for electrolytes or to investigate for the cause of vomiting.
As above

(e) Explain the arrangements that were in place in each of these respects.
It was not routine practice for the nursing staff to ask the Paediatric Team directly.

Normally a member of the surgical team would have asked the Paediatric Team if they needed assistance with a surgical patient.

(14) Was there any practice or policy in operation in Altnagelvin in 2001 which would have prevented surgical staff from asking a member of the paediatric team,

(a) To advise in relation to a surgical patient;
No.

(b) To examine a surgical patient;
No.

(c) To prescribe for a surgical patient;
No.

(d) To carry out tests, such as to take bloods for electrolytes or to investigate for the cause of vomiting.
No.

(e) Explain the arrangements which were in place in each of these respects.
A member of the surgical team would have asked a member of the Paediatric Team for their assistance with the surgical patient.

(15) In 2001 what was your experience, if any, of being asked by nursing staff or surgical staff,

(a) To advise in relation to a surgical patient;
On occasions I would have been asked to examine, prescribe, take blood or give advice about a surgical patient but I cannot recall on how many occasions.

(b) To examine a surgical patient;
As above.

(c) To prescribe for a surgical patient;
As above.

(d) To carry out tests or investigations with a surgical patient.
As above.

IV. QUERIES ON THE ISSUE OF FLUID MANAGEMENT

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

(16) 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?
The Surgical Team.

(17) 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 was not aware of these cases.

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

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

(18) 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.
I have become aware of these cases since the commencement of the Inquiry.

(b) State the source(s) of your knowledge and awareness and when you acquired it.
The Inquiry website, the Media and WHSCT.

(c) Describe how that knowledge and awareness has affected your work.
My knowledge and awareness of Hyponatraemia has been ongoing since June 2001.
For Fluid prescribing now I follow the Department of Health Paediatric Parenteral fluid therapy guidance.

(19) 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.

(20) 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.
As an undergraduate, fluid management was discussed in physiology sessions.

(b) Postgraduate level.
From June 2001, No 18 Solution was no longer prescribed for surgical paediatric patients.
I started teaching on APLS Courses in 2004 and would have covered fluid management and prescribing in paediatric patients.

(c) Hospital induction programmes.
Unable to recall.

(d) Continuous professional development.
See (b) above.

(21) Prior to 9th June 2001, describe in detail your experience of dealing with children with hyponatraemia, including the:-
Prior to 2001, I was involved in prescribing fluids for children. I am unable to recall the exact number of cases of Hyponatraemia I have treated.
Prior to 2001, I had not experienced a child with a sodium as low as 118. I cannot recall any adverse outcomes.

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

(b) Nature of your involvement.
As above.

(c) Outcome for the children.
As above.

(22) Since 9th June 2001, describe in detail your experience of dealing with children with hyponatraemia, including the:
I am still involved in fluid prescribing for children and giving advice about fluid management. I am unsure of the exact number of cases of Hyponatraemia I have seen since 2001. I cannot recall any adverse outcomes.

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

(b) Nature of your involvement.
As above.

(c) Outcome for the children.
As above.

V GENERAL

Please address the following:

(23) After Raychel's death were you asked to take part in any process designed to learn lessons from the care and treatment which she received and your role in it, to include any issue about her fluid management? If so,
I do not recall being asked to participate.

(a) Describe the process which you participated in.
As above.

(b) Who conducted it?
As above.

(c) When was it conducted?
As above.

(d) What contribution did you make to it?
As above.

(e) Were you advised of the conclusions that were reached, and if so, what were they?
As above.

(f) Were you advised of any issues relating to your role in Raychel's care and treatment?
No.

(g) Describe any changes to fluid management practice that you were made aware of at Altnagelvin Hospital following Raychel's death.
After 2001, No. 18 Solution was no longer prescribed for surgical patients.
The Department of Health Paediatric Parenteral Fluid Therapy Guidance is used and posters are up in the clinical areas.

(24) 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.
No further comment.

(b) Record keeping.
No further comment.

(c) Communications with Raychel's family about her condition, diagnosis, and care and treatment.
No further comment.

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

(e) Lessons learned from Raychel's death and how that affected your practice at Altnagelvin or elsewhere.
Fluid prescribing has changed from 2001 and I now follow the Department of Health Paediatric Parenteral Fluid Therapy Guidance.

(f) Current Protocols and procedures.
See (e) above.

(g) Any other relevant matter.
No further comments to make.

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

Signed: Bernie Trainor **Dated:** 26/6/12