Witness Statement Ref. No. 033/2

NAME OF CHILD: RAYCHEL FERGUSON

Name: Gareth Allen

Title: Doctor

Present position and institution:
Consultant in Anaesthesia and Critical Care Medicine, Belfast Health and Social Care Trust, Belfast City and Musgrave Park Sites.

Previous position and institution: [As at the time of the child's death]
Senior House Officer, Anaesthesia Altnagelvin Hospital

Membership of Advisory Panels and Committees:
[Identify by date and title all of those since your Witness Statement of 1st July 2005]
I am a member of the Medical Advisory Committee of Kingsbridge Private Hospital

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]
No other statements given before or after above statement

OFFICIAL USE:
List of previous statements, depositions and reports attached:
Ref: Date:
033/1 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

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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.

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 graduated from Queens University Belfast, Bachelor of Medicine, Bachelor of Surgery, Bachelor of Obstetrics in June 1998. I took up pre-registration house officer posts in General Surgery (August 98 – January 99) and General Medicine (February 99 – July 99) at the Royal Shrewsbury Hospital. I was then employed as Senior House Officer (SHO) in Anaesthesia from August 1999 until July 2000. I took up post as a senior house officer in anaesthesia in Altnagelvin Hospital in August 2000.

Whilst employed at Altnagelvin my duties were those common to all SHO's in anaesthesia throughout the UK: I attended day time clinical sessions to assist, learn from, and work under the supervision of the consultant anaesthetists of Altnagelvin hospital . These sessions were in the operating theatre, intensive care unit and labour ward. On the out of hours rota, and on regular occasion through the day also, I held the "1st On call emergency bleep". This meant being the first anaesthetist called when required for urgent/emergency cases in theatre and calls to the resuscitation room of the accident and emergency department. Calls to the Intensive Care Unit and Labour Ward were directly to the registrar. As I remember resuscitation calls to the wards and Intensive care referrals were generally directly to the registrar on call as well.
As an SHO in anaesthesia we were expected to discuss most if not all out of hours cases with a more senior anaesthetist. For the vast majority of cases this was the "2nd On call" – a more experienced (but non- consultant) anaesthetist – usually a registrar. On occasion, if the registrar was very busy or unavailable, advice or assistance was obtained directly from the on call consultant anaesthetist. This was a fairly common occurrence and such contact was encouraged by the team at Altnagelvin. As an anaesthetic SHO my responsibility was primarily to the anaesthetic department and to the patients directly under their care (ie patients in theatre and in recovery ward, in ICU or labour ward, or those we were called to for resuscitation or for consideration of transfer to the Intensive Care Unit (ICU))

(b) Describe your duties as a Senior House Officer (Anaesthesia) in Altnagelvin Hospital on the 9th June 2001.

On 9th June 2001 I was the 1st on call anaesthetic SHO for the shift from 8am on 8th June to 8am on 9th June. My duties were to act as first anaesthetist called for theatre cases and accident and emergency resuscitation room, and when free to assist the registrar in their duties – primarily for the benefit of one's own training and education, but occasionally an "extra pair of hands" would be required, for example for cases where very ill patients had to be resuscitated on a general ward.

(c) How much experience did you have of working with patients on a paediatric ward by the 9th June 2001?

I have never worked in a paediatric medical post. My exposure to paediatric patients was as an SHO in anaesthesia at Royal Shrewsbury and Altnagelvin. This involved anaesthetising older, medically well children (eg age 7 and up) for small/routine surgeries (tonsillectomy, appendicectomy, fracture manipulation), under the direct or occasionally local supervision (meaning another anaesthetist was in the hospital) of a more experienced anaesthetist.
My experience of such cases was gained ad hoc, not as part of a specific paedtiatric anaesthesia attachment. My best best estimate of anaesthetics given to children under 12 at this stage is about 150 cases. This is a very rough estimate.

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

After discharge from the recovery ward the post-operative care of children I had anaesthetized was always provided by the surgical teams, with the patients nursed on general paediatric wards. This was the case in every general hospital I have worked in before or since. It is extremely rare for an anaesthetist to be called to a post-op surgical patient on a paediatric ward in a district general hospital. Personally I cannot recall another incidence of this occurring before or since. I therefore had minimal direct experience of post-operative care at ward level for paediatric patients. This was not under the remit of the anaesthetist in any hospital I have worked in.

(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.
(b) State the date or the approximate date when you received any training or induction.
(c) Identify the person(s) who delivered this training or induction.
(d) Indicate if you received any documentation at this training or induction.

I attended an induction morning with the Department of Anaesthesia at Altnagelvin hospital. I remember being shown around the hospital, specifically the theatre blocks, intensive care unit, maternity unit, accident and emergency and the location and function of the anaesthetic equipment within these areas. I think we were shown the locations of the various wards as well, but my memory of this is less clear. I cannot remember anything else about the induction morning. It occurred (I think) on 4th August 2000 (the first morning on the job). It was led by one of the consultant anaesthetists, but I cannot specifically recall which one. I would have received a bleep and a copy of that months rota, but I have no discrete recollection of this. I cannot remember if any other documentation was given out. I cannot remember if fluid management per se was addressed or not. I do not remember attending any corporate type induction at Altnagelvin.

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(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**
*** Post-Operative Fluid Management**
*** Record keeping regarding fluid management**
And address the following:-
(a) Who provided this advice, training or instruction to you?
(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?

I did not receive any information or documents regarding hyponatraemia. I cannot recall receiving any information on post-operative fluid management. I cannot recall any specific instruction on record keeping pertaining to fluid management, either formal or informal. I am sure I would have been shown the hospital fluid prescription chart, but am unable to recall this happening.
I have no recollection of being told who specifically had the responsibility for prescribing intravenous fluids post-operatively for children.
Informal in theatre teaching is routine in anaesthesia, and a daily occurrence. I cannot recall whether or not any informal teaching about fluid management topics occurred in this way during this period.

II. QUERIES ARISING OUT OF YOUR INITIAL STATEMENT TO THE INQUIRY (WS-033/1)
(4) "On the 9th June 2001 I was called to the Paediatric ward by the Anaesthetic Registrar, Dr. A. Date. I assisted her in her intubation and ventilation of the patient and accompanied her and the patient on transfer to the CT Scanner and Intensive Care Unit. The consultant Anaesthetist on call was made aware of the situation."
(a) Following Raychel's seizure and respiratory arrest were you aware that the paediatricians suspected an electrolyte abnormality?

Yes

(b) What consideration, if any, was given by either you or your colleagues to taking any of the following steps:
(i) Immediately stopping Solution 18;

As I understood it, this had already occurred prior to my arrival.

(ii) Administering mannitol;
(iii) Administering a hypertonic saline solution?

I had no experience whatsoever of the management of severe electrolyte derangement in children. In such a situation I would have been completely reliant on experienced paediatric staff managing the hyponatraemia. Had I been alone my response would

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have been to manage the airway and ensure good intravenous access, and ensure that the most senior paediatrician on duty was contacted and attended immediately. On my arrival the paediatric team, including a consultant paediatrician were present and were managing the electrolyte abnormality. I would have had no reason to question their ongoing management. At that stage of my career I had no experience of using hypertonic saline at all. I had minimal experience of using mannitol for head injuries. I am not aware whether or not my registrar considered either of these interventions.

(c) You have referred to the fact that the Consultant Anaesthetist (on call) was made aware of the situation. Please address the following matters:
(i) In what circumstances would you have considered it important to notify your Consultant of the condition of a patient?

The consultant anaesthetist was notified for all complicated or high risk theatre cases, for all referrals to the intensive care unit, for all intensive care transfers occurring to another hospital, if a patient was referred in from an ICU in another hospital, and for any critically ill child (typically from A&E resuscitation unit – the above case was the only time I was called as an emergency to the Paediatric Ward in Altnagelvin). We were free to discuss any query with the consultant on call at any time. This contact was both encouraged and a regular occurrence. The contact would most often be made via the 2nd On call anaesthetist, but where necessary the 1st on call SHO was free to call them at any time.

(ii) Why was the Consultant Anaesthetist (on call) notified of the situation in Raychel's case?
The consultant would have been notified about any gravely ill child (or adult) that the resident on call team were called to see.

(iii) Do you know whether any contact had been made with a Consultant Surgeon to advise him/her that Raychel's condition had deteriorated?

I am not aware whether or not, or at what stage the surgical team contacted their consultant.

(iv) In what circumstances should a Consultant Surgeon be contacted to be advised of a deterioration in the condition of a general surgical patient?

If the patient requires return to theatre, requires transfer out of the hospital, is referred to the intensive care unit, develops a very serious post-operative medical (non-surgical) complication, or if the surgical juniors require his or her advice.

(v) In what circumstances should a Consultant Surgeon be asked to return to the Hospital to assist with a general surgical patient?

This would typically be for a return to theatre, but the decision would usually rest between the consultant surgeon and the surgical registrar on call.

(d) Did you oversee any treatment for Raychel when she was brought to the Intensive Care Unit? If so, what treatment was she given?

I had no further involvement of any kind with Raychel Ferguson after her arrival at the Intensive care unit.

III. QUERIES ON THE ISSUE OF FLUID MANAGEMENT

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

(5) 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?

I am not aware of who would have been identified with the role described above.

(6) 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.
(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.

I had no knowledge of these cases at that stage.

(7) 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.
(b) State the source(s) of your knowledge and awareness and when you acquired it.
(c) Describe how that knowledge and awareness has affected your work.

I am aware of these cases mainly due to the media coverage and the public inquiry. I have no detailed knowledge of the other cases or issues arising, save that they have as a common factor fatal hyponatraemia in hospitalized children in Northern Ireland.
I do not prescribe 5% Dextrose or "Solution 18" to anyone, adult or child, except for the treatment of high sodium levels in an intensive care unit. I advise monitoring of blood chemistry, urine output and fluid balance for all my postoperative patients who will be on intravenous fluids.
As I was at a very early stage of my career in 2001, it is difficult to comment on how much of my current practice has been shaped by the incidents above and how much by my own reading, further training and professional development.

(8) 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

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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.

I was not aware of the publications listed above.

(9) 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.

The physiology of sodium and water balance would have been addressed at Queens University during the 1st Year physiology lectures (1993/1994) and further in the clinical chemistry lectures in the second year (1994/1995). This was as scientific background, and the clinical specifics of fluid balance, fluid prescription and clinical details of hyponatraemia would not have been specifically addressed, as I recall. I cannot remember who taught the courses. I was taught the principles of fluid prescription in adults in an informal tutorial with Dr K George (Deceased) during my 3rd year surgical attachment at Belfast City Hospital. I do not know what was taught to students who were taught 3rd year surgery in other units.
We were not specifically taught about hyponatraemia during the clinical years, but would have been aware of it as a cause of various symptoms or syndromes. I cannot isolate that which I have read myself from any informal learning on ward rounds. We were not formally taught about its causes or management, as far as I can recall.
I think I may have received some instruction on the calculation of maintenance fluid requirements for children using the "4-2-1 rule" and the calculation of a fluid bolus in children as 10ml/Kg during my anaesthetic attachment at Belfast City Hospital during the 4th Year, but cannot discretely recall this.
I cannot recall any formal training during the paediatric final year course (1997/1998) about fluid prescription or hyponatraemia. We were informally taught about separating fluid into maintenance, deficit and ongoing losses. I cannot remember when, where or by whom this was delivered.

(b) Postgraduate level.

I cannot recall any formal instruction per se on hyponatraemia or fluid balance. These topics would be on the final FRCA syllabus, but much of this is covered by personal study. I have read extensively on the surgical stress response, fluid balance, electrolyte abnormalities and other related topics since – it is directly relevant to my work in adult intensive care medicine. I have performed a 2 hour e-learning tutorial on hyponatraemia as part of my continuing professional development (2009)

(c) Hospital induction programmes.

I cannot recall these topics being covered in any hospital induction programme before or since 2001

(d) Continuous professional development.

Please see part (b) above
I also attended a talk by a consultant from Altnagelvin concerning fluid management in children, and the ongoing public inquiry. This was on a Continuing Professional Development Course (2012)

(10) 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.

N/A

(c) Outcome for the children.

N/A

(11) 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.

N/A

(c) Outcome for the children.

N/A

IV GENERAL
Please address the following:
(12) 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,
(a) Describe the process which you participated in.
(b) Who conducted it?
(c) When was it conducted?
(d) What contribution did you make to it?
(e) Were you advised of the conclusions that were reached, and if so, what were they?
(f) Were you advised of any issues relating to your role in Raychel's care and

treatment?
(g) Describe any changes to fluid management practice that you were made aware of at Altnagelvin Hospital following Raychel's death.

I was not asked to take part in any process following Raychel Ferguson's death. Since my attendance at the talk detailed above I am aware that fluid prescription is very tightly protocolled at altnagelvin, that it is no longer possible to prescribe hypotonic fluids to children there, and that all children on IV fluids have daily blood chemistry sent.

(13) 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.

I have nothing further to add on these topics

29/05/2012

Dr G S Allen

Dr Gareth Allen

Consultant in Anaesthesia and Critical Care Medicine

Undergraduate Training:

MB BCh BaO Queens University Belfast 1998
Winner 1996 Upjohn Prize for Pathology
Nominated 1996 Ulster immunology Prize
Nominated 1996 Houston Microbiology Medal
Distinction Obstetrics and Gynaecology, and Child Health

Post Graduate Qualifications:

FFARCSI Dublin 2002

Winner 2001 RCSI College Medal (1st Place Primary Fellowship)
Winner 2002 RCSI Brophy Medal (1st Place Final Fellowship)

DIBICM Dublin 2006

Winner IBICM Medal (1st Place in Diploma) 2006

Post Graduate Training:

08/1998 – 07/1999	Pre-registration house officer Royal Shrewsbury Hospital
08/1999 – 07/2000	SHO Anaesthesia Royal Shrewsbury Hospital
08/2000 – 07/2001	SHO Anaesthetics Altnagelvin Hospital
08/2001 – 07/2002	SHO Anaesthetics Antrim Hospital
02/2002 – 07/2002	SpR Anaesthetics/Critical Care Belfast City Hospital
08/2002 – 01/2004	SpR Anaesthetics and Critical Care Royal Hospitals
02/2004 – 07/2004	Honorary SpR Respiratory Medicine/Nephrology BCH
08/2004 – 07/2005	SpR/Tutor Ulster Hospital/Queens University
08/2005 – 01/2006	SpR Anaesthetics Antrim Hospital
02/2006 – 01/2007	SpR Critical Care Royal Hospitals
02/2007 – 07/2007	SpR Anaesthetics Craigavon Hospital
08/2007 – 01/2008	Consultant Anaesthetist Mater Hospital
02/2008 – Current	Consultant in Anaesthesia and critical care Belfast City Hospital and Musgrave Park Hospital

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Publications:

Anaesthesia and Pseudoseizures. Allen G, Farling P. BJA 2004; 92(3): 451-2

Anaesthetic manangement of the pregnant patient for endovascular coiling of an unruptured intracranial aneurysm. Allen G, Farling P, McAtamney D. Neurocritical care 2006; 4(1): 18 – 20

Traumatic Brain Injury: Audit of compliance with the 1996 AAGBI Guidelines on transfer. Allen G, Farling P, Mullan B. Int Care Med 2005; 31: S223

Designated Consultants for the interhospital transfer of patients with brain injury. Allen G, Farling P, Mullan B. JICS 2006; 7(2): 13 – 15

Technique for Induction of anaesthesia in the critically ill: A survey of UK anaesthetists. Allen G, McAlinden J, Mathers R, Deyermond R. Int Care Med 2006; 32: S197

Interhospital Transfer. Allen G, Farling P: Chapter 9 – Head Injury: A multidisciplinary Approach. Ed Thomas E. Cambridge University Press

Trauma And Motorcyclists – Born to be wild, Bound to be Inured?: Hinds JD, Allen G, Morris CM. Injury 2007, Oct;38(10): 1131 – 8

Management of refractory coagulopathy due to adult onset acquired autoimmune haemophilia. Hendron G, Allen G, Brady M, Benson G. Int Care Med 2009: 35: S69

Emergency Airway Management of a Patient with a Montgomery T-Tube in Situ: Touma O, Venugopal N, Allen G, Hinds J. BJA 2011, Jul 107 (1): 107 - 8

Sodium Valproate Toxicity – A novel approach. Cooke A, MacSweeney R, Bell C, Loghry C, Allen G.. Int Care Med 2009: 35: S154

Echocardiography: Time for an in-house national solution to an unmet clinical need? Walker D, Bruemmer-Smith S, Ali N, Breen A, McLoughlin J, Allen J (Typo. error!), Chambers JB, Orme R, Morris C, McCaffrey J, Greenhalgh D. JICS April 2010 11(2): 146

Laird A, Allen G, Arava S. The role of transverses abdomens plane blocks for analgesia in post-operative critical care patients. Int Care Med. Sept 2011. Supplement. Abstract No 1085

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