Witness Statement Ref. No.	142/1
NAME OF CHILD: Claire Roberts	

Name: Brigitte Bartholome

Title: Dr

Present position and institution:
Consultant paediatric Emergency Medicine, Royal Belfast Hospital for Sick Children
FRCPCH,DCH,DEM,DGM

Previous position and institution:
[As at the time of the child's death]
In October 1996 Senior registrar in RBHSC

Membership of Advisory Panels and Committees:
[Identify by date and title all of those between January 1995- November 2011]
None

Previous Statements, Depositions and Reports:
[Identify by date and title all those made in relation to the child's death]
None

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

Ref:	Date:	

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 to your statement.

(1) **State the date when you were first appointed as a Paediatric Registrar by the Royal Group of Hospitals (Royal) and describe your experience as a Paediatric Registrar in the Royal Belfast Hospital for Sick Children (RBHSC) and any other hospital in which you worked prior to 21st October 1996**

I worked as a Paediatric Registrar in *Altnagelvin hospital,* Londonderry, from the 1st of August 1994 - 31st of January 1995

Altnagelvin is a busy District General hospital .The paediatric department has 34 general paediatric beds, a 26 bedded infant unit and 3 neonatal intensive care costs. Labour ward has approx 3500 deliveries per year.

As a registrar I supervised 4 1st terms SHO's and also covered the ED for paediatric emergencies and paediatric trauma cases. The on- call commitment was 1:3 (24 hour residential shift every 3rd day and every 3rd WE.)

My next post as a Registrar was in *the Ulster hospital,* Dundonald, from the 1st February 1995 - 31st July 1995.

The Ulster hospital is a DGH with 22 general paediatric beds, a 12 bedded infant unit, 4 neonatal intensive care cots and 10 special care baby spaces. I supervised 6 1st term SHO's and attended general paediatric and neonatal follow-up clinics.

I was first appointed as a paediatric Senior Registrar in the **Royal Belfast Hospital for Sick Children** on 1 August 1995.

My attachment from 1 August 1995 to 31 July 1996 was in paediatric neurology in *Paul Ward.* I also attended child psychiatry one day a week and community paediatrics one day a week throughout this time. The on-call rota was 1 in 5 (working 24 hour shifts every 5th day and every 5th WE).

The next attachment was from 1 August 1996 to 31 July 1997 in *Musgrave ward.*

I was the Senior Registrar in Musgrave Ward which had 25 beds. Musgrave ward covered paediatric nephrology, endocrinology, respiratory medicine, gastroenterology and some of the general paediatric patients. The emphasis of my attachment was paediatric nephrology and endocrinology.

As a Registrar working in Musgrave ward I also covered the Emergency Department from 9-5pm 3 days a week for advice, review of potential admissions and resuscitation cases.

(2) **Describe your work commitments to the RBHSC from the date of your appointment as a Paediatric Registrar, including the department/s and locations in which you worked and the periods of time in each department/location, and particularly over the period 21st October 1996 to 23rd October 1996.**

From 1st August 1995 to 31st July 1996 I worked in *Paul ward* with the paediatric neurology team.

The paediatric neurology department covered acute and chronic neurology cases. Areas of special interest were muscle disorders (e.g. Duchenne muscular dystrophy) and rehabilitation of severe head injury cases. We also saw referrals from other hospitals and reviewed cases in the hospital when a paediatric neurology opinion was requested.

I attended child psychiatry one day a week and community paediatrics one day a week. I covered the Emergency Department 3 days a week from 9-5.

The on call was 1 in 5 (working a 24 hour shift every 5th day and every 5th WE)

From 1 August 1996 to 31 July 1997 I was attached to *Musgrave Ward* which was a 25 bed unit. It covered paediatric nephrology, endocrinology, respiratory medicine, gastroenterology and general paediatrics. I mainly worked with the paediatric nephrology team and the paediatric endocrinologist.

This attachment covers the period of 21 - 23 October 1996.

(3) **State the times at which you were on duty between 21st October 1996 to 23rd October 1996 and in particular:**

(a) **Whether you were on duty and present in the hospital at all times or**

I was a Senior Registrar on call from approx 1700 of 22 October 1996 to 900 of the 23rd October 1996 at the RHBSC

The Paediatric Registrar is the most senior doctor on site between 17:00-09:00 the next day

A Registrar's on call duty in the RBHSC included covering the general paediatric wards, the speciality wards (cardiology, haematology, neurology, nephrology, paediatric surgery and orthopaedics). The SHO working in the paediatric intensive care unit would ask for advice if required. The hospital had about 120 beds at that time.

The Registrar on call also covered the Emergency Department

In 1996 the medical staffing at night was one Senior house officer in the Emergency Department and 2 junior Senior house officers for the medical and surgical wards. Their shift finished at 22:00. After 22:00 hours only one SHO covered all wards.

The Registrar on call would be called for advice by the junior doctors, to review children both on the wards and the Emergency Department and for acute treatment of acutely unwell children. Crash calls – urgent review and treatment of children whose condition had seriously deteriorated -were led by the registrar on call.

The children who are patients in the RHBSC are the most vulnerable and sick children in the province. Crash calls are therefore relatively frequent.

(b) Whether you were on call during that period

I was on call the 22nd/23rd October 1996 and on site for the whole duration of my shift (a 24 hour shift).

(c) What contact you had with Claire and her family during that period including where and when that contact occurred

I do not recall the case of Claire Roberts. No contact with the family of Claire Roberts is documented by me.

(4) Describe what you considered to be your role in relation to and responsibilities towards Claire and her family over the period from her attending A&E in RBHSC on 21st October 1996 until 23rd October 1996 when ventilatory support was withdrawn, and in particular:

(a) From Claire's attendance at A&E at RBHSC until her arrival in Allen Ward

Claire was admitted on 21 October 1996 at 8pm (090-022-050) to Allen ward.

I was not involved in her care throughout the working hours 09:00 – 17:00 of the 22 October 1996. I was the Registrar on Musgrave Ward.

(b) While Claire was in Allen Ward until her admission to PICU

Claire was admitted on 21 October 1996 at 8 pm (090-022-050) to Allen ward.

I was not involved in her care throughout the working hours 09:00 – 17:00 of the 22 October 1996. I was the Registrar on Musgrave Ward.

(c) From admission to PICU until her death

I was not involved in Claire's care in PICU.

(5) Describe your role, responsibilities and actions in relation to:

(a) Claire's fluid administration, monitoring and management

The Allen Ward team which looked after Claire from 09:00 - 17:00 prescribed Claire Roberts' iv fluids.

The maintenance fluids were initially prescribed on **21 October 1996** by Dr Volprecht at approx 20:00. (She prescribed 0.18% NACL with 4% Dextrose) at a rate of 64mls/hr (090-038-134). Her fluid calculation was based on Claire's weight of 24.1 kgs. (090-038-133).

The fluid prescription on **22 October 1996** (090-038-136) was prescribed by a doctor of the Allen Ward staff. I am unable to state the name of this doctor as I cannot read the signature. The doctor prescribed No 18 solution at a rate of 64mls/hr.

When I was contacted by the SHO Dr Stewart at 23:30 on 22 October 1996 I was told that the electrolyte results showed sodium of 121mmol/l.

I asked Dr Stewart to reduce the IV fluids to 2/3 of the maintenance rate. Dr Neil Stewart was the SHO on call. I did not recommend adding potassium to the IV fluid solution Dr Stewart prescribed (090-022-056)

Dr Stewart prescribed 500mls of No.18 solution with 20mls of potassium added to the No.18 solution at a rate of 41mls/hr (090-038-136).

(b) The making and recording of observations of Claire including determining and reviewing the frequency of those observations

As the paediatric neurology consultant Dr Webb had requested hourly observations after reviewing her (090-022-058) , I did not change the frequency of observations.

(6) In relation to the actions which you have described above in respect of Claire's fluid management etc. and the making of observations etc.:

(a) Explain the reasons for your actions

I gave instructions to reduce the IV fluids given to Claire Roberts to 2/3 of her maintenance rate when I was informed of the sodium level of 121mmol/l by the SHO on call Dr Stewart.

I also instructed him to check the urine osmolality of Claire Roberts as I was concerned that she might have inappropriate antidiuretic hormone secretion due to the severity of her illness (suspected viral meningitis/encephalitis).

(b) State which of them you carried out on the express instructions of a clinician, identifying in each case:

(i) The clinician concerned

(ii) The instructions they gave you

(iii) When they gave them to you

The instructions were mine alone

(c) **Whether you sought advice from or consulted with any other clinicians prior to taking any of those actions. If so:**

(i) **Identify the clinicians from whom you sought advice/consulted and state when you did so**

(ii) **State the nature of the advice you sought/the issues on which you consulted**

(iii) **State the advice that you received and identify the clinician who gave it to you**

(iv) **If you did not seek any such advice or consultation, explain why not**

I do not recall that I sought advice prior to taking these actions

(7) **In regard to Claire's medical notes and records, identify precisely the entries that you made or which were made on your direction and state below:**

(a) **When each of the identified entries was made**

The entries made as per my direction and my own entries are documented (090-022-056).

At 23.30 I instructed the SHO on call Dr Stewart to reduce the IV fluids to 2/3 of the maintenance rate- he changed the fluid infusion rate to 41mls/hr. I also asked Dr Stewart to send the urine for osmolality.

At 3am I had been called to the crash call of Claire Roberts and I wrote a post crash call note.

(b) **The source of the information recorded in the entry**

The initial note (090-022-056) was written by the SHO on call who documented my instructions to him.

The entry at 03:00 was written by me.

(8) **State precisely whether and how you communicated the diagnosis of Claire's condition on 22nd October 1996 to the members of the medical and nursing team, and when this was done.**

I am unable to answer this question. No documentation of these points is available in the case notes.

(9) **State whether you reported Claire's condition including her blood results to any clinician/s at any time during that period. If so:**

(a) **Identify the clinician/s to whom you reported and state when you did so.**

(b) **The means by which you conveyed that report e.g. orally, in person, by telephone, in writing etc.**

(c) **State precisely the information conveyed to that clinician.**

(d) **State whether Claire was re-examined or otherwise reviewed or reassessed as a result of that report or whether her care/treatment was changed and provide details of it. If not:**

(e) **Explain the reasons why not.**

I spoke to Dr Clarke, anaesthetist on call that night, Dr McKaigue, consultant anaesthetist and Dr Steen, consultant paediatrician on call about Claire's condition. I cannot recall the details of the conversations.

(10) **Other than *""non-fitting" status epilepticus... encephalitis or encephalopathy"* state whether there were any other alternative diagnoses and, if so, identify each of them and explain why they were not noted on Claire's medical notes.**

(a) **In particular, state whether you considered hyponatraemia and/or cerebral oedema as a diagnosis, and explain the reasons why/not. If so, why this was not recorded in Claire's medical notes.**

Claire definitely had hyponatraemia at 23:30.Her sodium level was 121mmol/l. I suspected inappropriate antidiuretic hormone secretion as the cause for this condition in Claire's case and asked the SHO to reduced Claire's iv fluids to treat possible SIADH and fluid overload.

(b) **State whether you considered that Claire's reduced level of consciousness and poorly reacting pupils were caused by cerebral oedema related to hyponatraemia. If so, state when and the reasons why you considered this. If you did not consider this, explain why not.**

I do not recall considering this.

(c) **State whether you considered monitoring Claire's intracranial pressure at any time. If so, state when and the reasons why. If not, explain why not.**

I do not recall considering this.

(11) **Describe the equipment, services and facilities available to RBHSC patients in RBHSC and on the RVH site in October 1996:**

(a) **During working hours (09.00-17.00) Monday - Friday**

(b) **Out of hours (17.00-09.00) Monday - Friday**

(c) **At weekends**

for carrying out a paediatric

(i) **CT scan**

CT: In 1996 the RBHSC did not have a CT scanner. The CT scanner we could use was located on the main Royal Site only. Patients requiring a CT had to be transferred to the CT site.

Availability of service: 09:00 - 17:00 Mo - Friday

Date and time for the CT given by the CT department. A significant problem was availability of a transport team

Out of hours: After discussion with radiology. Transport major issue as only on-call staff available for ambulance, anaesthetics, paediatric doctor and nurse, radiographer and radiologist

Claire was intubated, ventilated and anaesthetists were present in the PICU- that is why the CT could be performed quickly. A transport team did not need to be put together.

Weekend: After discussion with radiology. Transport very difficult (see above)

(ii) MRI scan and

The main RVH has had a MRI scanner since 1993. It was located in Carrikmannon House.

It was only available Mo - Friday 09:00 - 17:00.

(iii) EEG

It was possible to get an EEG in the RBHSC. The RBHSC had only one clinical physiologist available on the 22nd of October 1996. An EEG was performed on the request of a paediatric neurologist only.

Available 09:00 - 17:00 Monday - Friday only.

(12) Identify the other medical or clinical staff who would be required to carry out and report on a paediatric:

(a) CT scan

(b) MRI scan and

(c) EEG

and describe their availability:

(i) During working hours (09.00-17.00) Monday - Friday

(ii) Out of hours (17.00-09.00) Monday - Friday

(iii) At weekends

in October 1996.

CT :

In 1996 the CT scan was located in the main RVH. The patient would require transfer to the scanner site. Staffing requirement: An ambulance, the ambulance team, an anaesthetist, a nurse to assist the anesthetist, a paediatrician and a paediatric nurse. A radiographer would be required to carry out the CT scan. The CT scan would be reported on by a radiologist.

(i) During working hours 09:00 - 17:00 Monday to Friday: Team as above.

(ii) Out of hours Monday-Friday : The staffing requirement would be the same as listed above.

(iii) At weekends: Only on-call emergency staffing is available. Staffing requirements as above

MRI staffing requirement

The MRI scanner was located in Carrickmannon house.

Staffing required for the transfer as above: Ambulance team. anaesthetist , nurse to assist the anesthetist, paediatric doctor, paediatric nurse Radiographer to perform scan, Radiology registrar and consultant to interpret the scan and order further imaging (or contrast to be given) if necessary.

This service was only available 09:00 - 17:00 Monday - Friday.

EEG staffing requirement

The clinical physiologist would need to be available to do a paediatric EEG . A paediatric nurse would usually accompany the parents and the child.

(13) State whether you considered requesting:

(a) a CT scan and/or

(b) an MRI scan and/or

(c) an EEG

on examining Claire on 21st and 22nd October 1996. If so, explain why and if not, explain why.

I was not involved in Claire Robert's care on **21 October 1996.** I was the on-call registrar on the 22nd October 1996 from 17:00. I was involved in her care from 23:30.

I cannot recall if I examined Claire during the evening until I was called to her around 03:00 am on the 23rd October 1996.

(14) **State what the threshold was for requesting a paediatric:**

(a) **CT scan**

(b) **MRI scan**

(c) **EEG**

in RBHSC in October 1996.

The threshold to perform these investigations depended on the clinical state of the patient. I am unable to recall the threshold for these investigations in 1996.

(15) **State what authorisation was required for obtaining a paediatric:**

(a) **CT scan**

(b) **MRI scan**

(c) **EEG**

in RBHSC in October 1996.

(a, b) A CT scan or an MRI required a request from a consultant involved in the patient's care.

(c) An EEG was only done when requested by a paediatric neurology consultant.

(16) **If you had requested a CT scan, MRI scan and/or an EEG of Claire on 21st or 22nd October 1996 state:**

I was the registrar on call on the night of 22-23 October 1996. I can only answer this question in relation to my on-call duty from 17:00 October 1996.

(a) **Where that would have been carried out**

The CT scan would have had to be done in the main Royal radiology department.

A MRI would have to be done in Carrickmannon House. Service provided Monday to Friday 09:00- 17:00 only.

An EEG would have been done in the RBHSC. Service provided Monday to Friday 09:00 - 17:00

(b) **How long it would have taken to arrange for Claire**

The time to arrange a CT scan was variable depending on urgency of request and capacity of the service at that time. Claire was in PICU and intubated. One and a half hours was the time needed to obtain her CT.

An MRI was not obtainable out of hours.

An EEG was not obtainable out of hours.

(c) How Claire would have been transferred to the venue for the CT and/or MRI scan and/or EEG

Claire would have needed to be transferred to the CT scanner by ambulance.

(d) Whether anaesthesia or sedation was likely or necessary, and

The anaesthetist would make these decisions.

(e) How long that journey would have taken

It is not possible to predict the duration of a transfer - problems can occur at any stage of the transfer. For example being stuck in a lift, malfunction of equipment, problems with the test performed, problems interpreting the result which might require further tests to be done, availability of an ambulance for the transfer back ...

Claire's CT was obtained in 1 hour 30 minutes.

(17) State whether you discussed with any other person carrying out an urgent electro-encephalogram (EEG) in order to make a firm and unequivocal diagnosis of non-convulsive status epilepticus, and state:

(a) With whom you discussed this.

(b) The time, location and outcome of the discussion and any document recording the discussion.

(c) Whether you made enquiries about whether a technician and equipment was available to carry out an EEG, the outcome of those enquiries and identify any note of your enquiries and whether a technician or equipment was available to carry out that test.

(d) What EEG service was available in RBHSC on 22nd October and 23rd October 1996.

(e) Whether you considered closer observations of Claire on making this diagnosis and when the medicines (diazepam, midazolam and phenytoin) were being administered. If so, state when and how you considered this, and the result of it. If you did not consider this, explain why not.

I do not recollect discussing this investigation with anyone.

An EEG required approval of a consultant paediatric neurologist. The investigation was not available out of hours. I was the registrar on call from 17:00 on the 22nd October to the morning of the 23rd of October.

(18) **State whether you considered carrying out more extensive biochemical tests including liver function tests, calcium, glucose, ammonia and toxicology on 22nd October 1996. If so, explain why these tests were not conducted at this stage given Claire's condition. If not, explain why they were not considered.**

(a) **Describe the consideration, if any, you gave to carrying out a blood test on 22nd October 1996 to check Claire's serum sodium level.**

(b) **State whether you discussed with a more senior clinician on 22nd October 1996 carrying out a blood test for electrolytes. If so, identify that clinician and state when this discussion took place.**

(c) **State whether any decision was made as to whether a blood test for electrolytes was to be conducted on Claire. If so, what that decision was.**

(d) **Explain the reasons for not carrying out such a test until the evening of 22nd October 1996.**

I do not recollect this.

I was not involved in Claire Robert's care in Allen Ward on 22 October 1996 until 23:30 on 22nd October 1996 when a serum sodium result of 121 mmol/l was obtained.

(19) **In assessing, determining and reviewing Claire's fluid management, state:**

(a) **What consideration you gave on 22nd October and 23rd October 1996 to fluid restriction in Claire's case, and when you considered this. If fluid restriction was not considered, explain why not.**

I instructed the SHO on call Dr Stewart to restrict Claire's IV fluids to 2/3 of maintenance at 23:30 in view of her low sodium level. I also requested a urine osmolality (090-022-056)

(b) **Whether you were aware of the possibility of inappropriate ADH secretion in Claire's case on 22nd October 1996. If so, state whether and how you modified Claire's management and IV fluid regime to address that possibility. If you were not aware of this, explain why not. If you made no modifications to the IV fluid regime, explain why not.**

I was aware of the possibility of inappropriate antidiuretic hormone secretion in view of the severity of Claire's illness. The sodium level of 121mmol/l could have been a result of this condition. I therefore instructed Dr Stewart to reduce the IV fluids to 2/3 of maintenance and to check the urine osmolality (090-022-056)

(c) **Whether you considered prescribing a higher sodium containing fluid on 22nd October 1996. If so, state when and the reasons for considering this. If you did not consider this, explain why not.**

I do not recall. There is no documentation listing other treatment options considered by me.

(d) **If you regarded Claire as dehydrated, or potentially dehydrated at any time during your care and treatment of her.**

When I was informed about the electrolyte results on 22 October 1996 at 23.30, her urea was 2.9 mmol/l. I therefore did not consider Claire either partially or fully dehydrated.

(e) **What consideration you gave on 22nd October and 23rd October 1996 to Claire's urine output, urine sodium and urine osmolality, when you considered this and what the result was of this consideration.**

I requested Claire's urine osmolality to be checked on the night of 22 October 1996 at 23:30.

(f) **Whether there was a reassessment or review of Claire's fluid management on 22nd October 1996. If so, state when, by whom and the outcome of it. If there was not, explain why not.**

I was only involved in Claire's fluid management at 23.30 on 22 October 1996 when I was informed of the electrolyte results and then reviewed Claire's fluid management.

(g) **Whether you considered measuring Claire's urine output on admission. If not, explain why you did not consider this.**

I was not involved in Claire's care on admission.

(h) **Whether you considered catheterising Claire on 22nd October or 23rd October 1996. If so, state when you considered this and the reasons why. If you did not consider this, explain why.**

I do not recall whether I considered this.

(20) *"22/10 7.15pm. teeth clenched + groaned.*

Duration 1 min..

State afterwards asleep." **(Ref: 090-042-144)**

(a) **State whether you or any other member of the medical team witnessed this seizure. If so, identify the others who witnessed it.**

(b) **State whether you or any other member of the medical team were informed of this seizure at 19.15 or at any time thereafter. If so, identify who was so informed, by whom and state when and where you or s/he was so informed. If not, explain why not.**

(c) **State whether Dr. Webb or the consultant paediatrician on-call who was responsible for Claire was aware of this seizure at any time on 22nd October 1996. If so, state when and how s/he became aware of it. If they were not aware of it, explain why not.**

(d) **State whether Claire's diagnosis and treatment plan were reassessed in light of this episode. If so, by whom, when and how. If it was not reassessed, explain why not.**

I do not recall being informed of this event.

(21) *"22/10 9pm Episode of screaming and drawing up of arms. Pulse rate ↑165 bpm. Pupils large but reacting to light. Dr informed."* **(Ref: 090-042-144)**

(a) **Identify the person from whom you took over on the evening of 22nd October 1996 and describe what handover arrangements were made at that time.**

Dr A Sands was the registrar allocated to Allen ward for this period. Dr Sands did the ward round on the morning of the 22nd October (090-022-052).

I am unable to state if he was the person who did the handover re Claire Rodgers that afternoon.

(i) **Explain why there was no note of any handover at that time.**

At that time the handover was informal without any proforma for a written handover. Notes were made by the individual doctors as they felt appropriate.

(b) **State whether you or any other member of the medical team witnessed this seizure. If so, identify the others who witnessed it.**

I cannot recall being informed of this event.

(c) **State whether Dr. Webb or the consultant paediatrician on-call responsible for Claire was aware of this seizure at any time on 22nd October 1996. If so, state when and how s/he became aware of it. If they were not aware of it, explain why not.**

I do not know if either Dr Webb or the consultant paediatrician on call were informed of this seizure.

(d) **State if you were the *"Dr informed"* (Ref: 091-011-068)**

I do not recollect being informed.

(e) **If you were the *"Dr informed"*:**

(i) **Explain if you re-examined and/or reassessed Claire, including when you examined or assessed her, and your opinion of her condition once you had done so. If you did not re-examine and/or reassess her after being informed of this episode, explain why you did not do so.**

(ii) **Explain whether you reassessed Claire's treatment plan in light of this episode. If so, state in what way. If you did not reassess it, explain why not.**

(iii) **State if you discussed the episode with the paediatric registrar or a consultant. If so, state whom you discussed it with, when you discussed it and what you discussed. If you did not discuss *"the episode"* with a consultant or paediatric registrar, explain the reasons why.**

I do not recollect being informed.

(f) **If you were not, state whether any other member of the medical team was informed of this seizure at 21.00 or at any time thereafter. If so, identify who was so informed, by whom and state when and where s/he was so informed.**

The notes record that a doctor was informed (090-042-144). I do not recall being informed of this event.

(22) *"22/10/96 23.30 Na 121"* **(Ref: 090-022-056)**

(a) **State when the bloods were taken that gave rise to these results.**

The bloods were taken at 9.30pm (090-040-138).

(b) **State when you were made aware of this result, and by what means you were made aware.**

I was contacted by Dr Stewart at 23:30 (090-022-056). I am unable to say how he contacted me- this is not documented

(c) **State whether you contacted and informed a consultant of this blood result.**

Contact with the consultant is not documented

(d) **If so, identify the consultant, the time at which they were contacted and informed of this result, and their advice in relation to Claire's management in light of that result.**

See above

(e) **If not, state the reasons for not contacting and informing a consultant of this blood result.**

See above

(f) **State whether an urgent repeat blood sample was taken to check Claire's serum sodium level. If so state when this was done, by whom and what was the sodium result of that 2nd sample. If not, explain why not.**

A repeat electrolyte specimen prior to transfer to PICU is not documented.

(g) **State whether, on receipt of the result, you conducted a clinical examination and/or reassessment of Claire. If so, when you did so, what you considered and what was the outcome of this reassessment. If not, explain why not.**

It is not documented that I performed a clinical examination of Claire. I assessed her fluid management and asked Dr Stewart to reduce her iv fluids to 2/3 of maintenance.

(h) **Describe all actions you took in relation to Claire's management and care as a result of receiving this serum sodium result.**

I asked Dr Stewart to reduce the IV fluids to 2/3 of the maintenance rate and to check the urine osmolality.

(i) **Explain the reasons for the delay between the request for a blood sample from Claire at 17.00 on 22nd October 1996 and the sample being taken at approximately 21.30.**

Dr Webb, the consultant paediatric neurologist, ordered a phenytoin infusion at 16:00 on the 22nd of October 1996 and requested the phenytoin level to be checked 6 hours after the infusion (090-022-054). The phenytoin level and the electrolytes were checked at 21:30 as requested.

I was not involved in Claire's care until 23:30 on 22nd of October 1996.

(j) **State whether you assessed the sodium blood chemistry and white cell count results at any time. If so, state when and how**

I was informed of the blood chemistry result at 23.30 on 22nd October 1996 . I cannot recall whether I assessed the full blood count.

(23) *"Hyponatraemic - ? Fluid overload and low Na fluids*

? SIADH

Imp - ? Need for ↑Na content in fluids

D/W Reg - ↓Fluids to 2/3 of present value - 41 mls/hr

Send urine for osmolality" **(Ref: 090-022-056)**

(a) **State what the result was of the urine osmolality sample being sent at 23.30 on 22nd October 1996.**

I am unable to recall whether a urine was sent for urine osmolality prior to Claire's acute deterioration at 03:00 on the 23rd October 1996. It is not documented in the notes that this had been done.

(b) **State what you discussed with Dr Stewart and in particular who raised the possibility of Claire being *"hyponatraemic".***

Claire was hyponatraemic – this was recognized by Dr Stewart and me.

My instructions to reduce the IV fluids to 2/3 of maintenance were based on the assumption of SIADH causing the low sodium level, especially considering the severe underlying illness suspected to cause Claire's condition.

(c) **State whether or not you acted on the assumption of cerebral oedema. If so, explain why. If not, explain why not.**

I do not recall whether I acted on the suspicion of cerebral oedema.

(d) **State whether you considered inducing a diuresis with IV mannitol and ventilating Claire to reduce her partial pressure of carbon dioxide to a mildly sub-physiological level in order to reduce intracranial pressure. If so, state when and the reasons why. If not, explain why not.**

I cannot remember whether I considered this.

(e) **State if you re-examined Claire after your discussion.**

I do not recall if I examined Claire after talking to Dr Stewart. It is not documented.

(24) *"3AM called to see.*

had been stable when suddenly she had a respiratory arrest and developed fixed dilated pupils.

When I saw he she was Cheyne-Stoking and requiring O2 inc face mask.

Saturation with bagging in high 90's.

Good volume pulse

I attempted to intubate - not successful.

Anaesthetic colleague came and intubated her orally with 6.5 tube.

transferred to PICU" **(Ref: 090-022-056)**

(a) **Prior to 03.00 on 23rd October 1996, state the periods of time when you were on Allen Ward whilst you were on duty on 22nd October and 23rd October 1996.**

I cannot remember the periods of time I spent on Allen ward during my night on call.

I covered the whole hospital with all the wards (Musgrave Ward, Paediatric Cardiology, Paediatric Nephrology, Paediatric Surgery, Paediatric Orthopaedics, Paediatric Respiratory Medicine, Paediatric Infective Medicine, Paediatric Burns Unit and Allen Ward. I also covered the Paediatric Emergency Department throughout this shift). I covered 120 paediatric patients, who were all unwell or very unwell. This is a very vulnerable patient group whose condition can change quickly.

(b) **Prior to 03.00 on 23rd October 1996, state every occasion upon which you had attended Claire on 22nd October 1996 and examined her, the time of each attendance and your assessment of Claire on each occasion. If you had not attended Claire at all prior to 03.00, explain the reasons why not.**

I am unable to answer this question. My only documented involvement in Claire's care is covered on Page 090-022-056 in the notes.

(c) **Identify the person who made this entry on Claire's medical notes and their position.**

This note was made by Dr Bartholome, Senior Registrar on call on the night of 22 - 23 October 1996.

(d) **State the identity of the anaesthetic colleague who successfully intubated Claire.**

As per Page 090-022-058 of the notes, Claire was intubated by Dr Clarke, SpR Anaesthetics on call that shift.

(e) **Identify who *"called"* you *"to see"*, the time at which and reasons why you were called to see Claire.**

I am unable to identify the nurse who called me to see Claire. I was called at approximately 2.30am (090-040-138,139). I was contacted because Claire had a respiratory arrest.

(f) **State what you mean by *"stable"*.**

My note was written retrospectively after Claire Rodgers had crashed and had been transferred to the PICU.

There is no documentation in the chart regarding a direct contact with me as registrar on call because of concerns regarding a change in Claire Rodgers observations.

The CNS observation chart done by the nursing staff did not show any change in her heart rate, respiratory rate and blood pressure (090-040-137).

Her Glasgow coma scale fluctuated between 6 - 8. She had a GCS of 6 at 16:00 and 17:00, again from 9pm until 2 am the 23rd October 1996.

(g) **Identify the period of time on 22nd and/or 23rd October 1996 over which Claire *"had been stable"*.**

See above

(h) **State whether you had formed the opinion that Claire *"had been stable"* or was this note based upon what you had been told by another person. If so, identify that person and when you were told this.**

The note written by me was a retrospective note written after the transfer of Claire Roberts to the PICU.

(i) **Explain the basis upon which you noted that Claire *"had been stable"*.**

The note was written after the respiratory arrest of Claire Roberts.

Prior to this event Claire had maintained her airway, she was breathing spontaneously and her oxygen saturations were satisfactory.

(j) **Explain what you mean by *"Cheyne-Stoking"* and what you considered were the implications of this sign.**

Cheyne-Stoking" breathing is an abnormal breathing pattern which can occur in a patient who is severely hypoxic and requires oxygen.

Encephalitis is also a known cause of a Cheyne - Stokes breathing pattern.

(k) **At that time, what was your diagnosis of Claire's condition and the basis of it. Explain the reasons why you did not record that in Claire's medical notes.**

My note on Page 090-022-056 is a post crash note. Claire had had a respiratory arrest and was transferred to PICU.

(l) **Identify the person/s who contacted Dr. Steen at approximately 03.00 on 23rd October 1996, their position, and the reasons why they contacted Dr. Steen in relation to Claire.**

No documentation exists stating who contacted Dr Steen about this event.

(m) **Explain why a CT scan was not arranged for Claire on 22nd October 1996.**

Dr Webb, Consultant Paediatric Neurologist, had seen Claire on 22nd October 1996 and had suggested to perform "a CT scan to be done on **23 October 1996** should Claire not wake up". (090-022-054).

(25) **State whether you considered increasing the frequency of Claire's central nervous system and respiratory observations and monitoring of her vital signs on 22nd October 1996. If so, state when, the reasons why you considered this, and the reasons why no change was made to the frequency of the observations/monitoring at all. If you did not consider this, explain why not.**

(a) **State whether you discussed increasing the frequency of Claire's central nervous system and respiratory observations and monitoring of her vital signs with any other person. If so, identify that person and state when and where you discussed this, and the outcome of the discussion. If not, explain why not.**

Dr Webb, the Paediatric Neurology Consultant, had requested hourly observation (090-022-054). I was not involved in the daytime care or treatment plan initiated by the medical team of Allen Ward and the neurology team which had been consulted.

(b) **When the hourly CNS observations were started, state whether you considered passing a naso-gastric tube. If so, state when and how this was considered and what was the outcome of it. If it was not considered, explain why not.**

See above. According to the notes a NG tube was not requested by the medical team.

(26) **State whether consideration was given to admitting Claire to PICU and the reason/s why Claire was not admitted to PICU on 22nd October 1996, and in particular:**

(a) **When Claire did not respond to any anti-epileptic medication**

(b) **At 9pm when Claire's GCS dropped**

(c) **At 23.30 when Claire's serum sodium result of 121mmol/L was noted**

There is no documentation covering a possible admission of Claire Roberts to PICU in the notes.

I am unable to say what the threshold for admission to PICU was in 1996 for a patient who did not require intubation and ventilator support

Claire maintained her airway and her respiration was satisfactory. She maintained good oxygen saturation levels and did not require ventilator support throughout her illness until she had the respiratory arrest at 3.00 am on the 23rd October 1996. (090-040-137).

(27) **State the system of referral to PICU in RBHSC in October 1996.**

Admission to the PICU had to be approved by the paediatric anaesthetist.

A patient who has a respiratory arrest requiring emergency intubation would be transferred to PICU and the paediatric anaesthetist consultant on call and the paediatric consultant on call would be informed of this event.

(28) **State whether the process to seek advice from a Paediatric Intensive Care Specialist in October 1996 in RBHSC was solely via the treating Consultant or whether junior medical staff could seek support from PICU between 17.00 and 09.00 without necessarily informing their Consultant.**

The PICU was covered by junior paediatric staff present in the unit throughout the night. The paediatric intensive care specialist was the consultant on call that night for the PICU.

Junior medical staff could seek support from PICU out of hours.

(29) **State whether you were aware of the recorded CNS observations (Ref: 090-039-137) on 22nd October and 23rd October 1996. If so, state what you did as a result of it and the reasons for this. If not, explain why you were not aware of these CNS observations.**

(a) **State the Glasgow coma score that you consider to reflect the onset of coma.**

A GCS of 8 or below would be considered coma.

(b) **State at what GCS you would normally have discussed admission to PICU.**

Claire maintained her respiratory effort and her oxygen saturation was above 98% at all times until she had her respiratory arrest at 3am.

A oxygen saturation below 94% would require consideration of oxygen supplementation (unless the child had cyanotic heart disease with saturations which are normally low for this child because of impairment of the circulation through the lungs where blood is oxygenated)

Dr Webb had seen her at 1700 on 22 October 1996. At that stage she had a GCS of 6. He did not suggest transfer to PICU. She had no respiratory compromise.

(c) **State the protocols, guidelines and procedures in RBHSC between 21st and 23rd October 1996 governing admission of children to PICU.**

I have no record of guidelines regarding admission to PICU in 1996.

Generally the procedure would be that a patient has to be accepted to PICU by the paediatric anaesthetist unless the patient requires emergency intubation (crash in the ward or Emergency department). The consultant anaesthetist would usually discuss the appropriate treatment with the consultant of the specialty involved (medical , surgical or neurosurgical emergency)

(30) **State whether you considered contacting Drs Steen or Webb in relation to Claire's GCS and if not, why not. If so, what exactly was discussed, what they did about it and what the response was.**

(a) **State whether you were aware on 22nd October and 23rd October 1996 of which consultant you and Dr. Stewart should call should you have needed advice. If so, identify that consultant and the basis of your knowledge at that time.**

Dr Steen was the consultant in charge of Claire Roberts' care (090-014-020).

The paediatric consultant on call out of hours would be the first point of contact for advice. The consultant rota would usually be available on the ward. I have no documentation of the consultant rota for the month of October 1996. I am unable to say who the paediatric consultant on call was on the 22nd October 1996.

The consultant paediatric neurologist on call would be the first point of contact for acute neurology concerns of any of the patients under their care. I do not have the rota of the paediatric neurology consultant for the month of October 1996.

(b) **State the threshold for calling a consultant in RBHSC in October 1996.**

The threshold to call a consultant depends on the specialty involved and the usual practice of this specialty during working hours and outside normal working hours. It also depends on the experience and seniority of the junior medical staff involved in the care of the patient. The severity of illness of the patient is also considered.

(31) **Describe any protocols or guidance, if any, in place at the RBHSC in October 1996 for referrals by medical staff of a patient to other consultants without first discussing the case with the Paediatrician in charge of the patient.**

I am not aware of any written protocols covering this question.

(32) **State whether you considered advising Claire's parents of her deteriorating condition and if consideration was given to addressing the situation.**

I do not recall this.

(33) **Identify the Consultant whom you believed to be responsible for Claire and her management, care and treatment between her admission on 21st October 1996 and her death on 23rd October 1996, and explain the basis for this belief.**

(a) **Identify the paediatric consultant who was responsible for Claire's care, treatment and management from 17.00 on 22nd October 1996 and thereafter.**

(b) **Identify the duty paediatric consultant on call on the evening of 22nd October and the morning of 23rd October 1996.**

The patient was admitted under the medical team on 21 October 1996. Dr Steen was the consultant responsible for Claire Roberts' care (090-014-020).

The paediatric neurology team was consulted to assess Claire and help with her treatment. Dr David Webb was the Paediatric Neurology consultant who documented his assessment and treatment plan.

(34) **Identify the members of the paediatric medical team on duty when Claire was admitted to Allen Ward on 21st October 1996, and their respective job titles.**

The paediatric registrar who was working on the night of the 21st October 1996 most likely was Dr O'Hare. (090-010-012 Accident &Emergency sheet 'S/B Medical Reg' and **Dr O'Hare's** signature on 090-012-014).

Claire's admission notes were written **by Dr O'Hare,** registrar on call on the night of 21 October 1996 from 17:00 - 09:00 the 22nd of October 1996.

Dr Steen was the consultant on call on the 21st of October 1996. Claire Roberts was admitted under her care.

(35) **Describe any changes to the members of that paediatric medical team during your care of Claire, the time when each change occurred and identify the additional/new members of the team and their respective job titles.**

I was the registrar on call the night of the 22nd/23rd of October 1996.

22nd October 1996:

Medical SHO 17:00 – 22:00 Dr J Hughes

Night cover 22:00 – 09:00 Dr N Stewart

(36) **Identify the members of the nursing team on duty on 21st October 1996 when Claire was admitted to Allen Ward and their respective job titles.**

I am unable to answer this question.

(37) **Describe any changes to the members of that nursing team during your care of Claire, the time when each change occurred and identify the additional/new members of the team and their respective job titles.**

I am unable to answer this question.

(38) **In October 1996, state whether nursing care was prescribed by doctors, nurses or both.**

Standard nursing care was initiated by the nursing team. The nursing care provided depended on the needs of the patient and the treatment the patient was receiving. The care could be adapted after discussion with the doctor. The doctor could also make specific requests- for example ask for CNS observations to be recorded.

Identify the ward sister/nurse in charge of Allen Ward between 21st and 23rd October 1996.

I am unable to identify the ward sister or the nurse in charge of Allen Ward in October 1996.

(39) **Describe the communications that you had with the Consultant responsible for Claire on her admission, including:**

(a) **Time of each communication**

I do not recall the time I spoke to Dr Steen.

(b) **Means by which the communication was made**

I do not recall the means of contact with Dr Steen.

(c) **Nature of each communication**

I am unable to answer this question.

(d) **Whether any advice or direction was given by the Consultant in relation to Claire's treatment and care. If so the nature of that advice or direction**

I do not remember this.

(e) **Describe any protocols, if any, in place at the RBHSC on 22nd October 1996 for referral of a patient from the admitting consultant to another consultant due to the unavailability of the admitting consultant.**

I am not aware of any protocols covering this question.

The consultant under whose care a patient is admitted would usually remain the consultant in charge of the patient's care. Consultations of other medical teams would be requested.

(40) **State what communication you had with Dr. Heather Steen in relation to Claire between 21st October 1996 and c. 04.00 on 23rd October 1996 including:**

(a) **The date and time each communication was made, and the means by which communication was made e.g. in writing, telephone, in person etc.**

(b) **Identify who initiated each communication and the reason for each communication being made.**

(c) **State what information you gave Dr. Heather Steen about Claire during each communication.**

(d) **State what advice or instructions Dr. Heather Steen gave you in relation to Claire on each occasion and what the plan of care was for Claire following each communication.**

(e) **Identify any document where each communication is recorded and produce a copy of it.**

(f) **If no communication was made, explain why not.**

(g) **State whether Dr. Steen attended and examined Claire at any time between Claire's attendance at A&E on 21st October 1996 and Claire's death on 23rd October 1996. If so, state the date, time and location of that attendance and examination.**

I was not involved in Claire's care on 21 and 22 October 1996 throughout daytime hours.

My only involvement in Claire's care was around midnight of 22nd and the early hours of 23rd October 1996.

I am unable to answer these questions. There is no documentation of any contact I made with Dr Heather Steen throughout this period. I am therefore unable to answer a, b, c, d, e and f of this question.

Re (g) Page 090-022-057 documents Dr Steen's attendance in the PICU (23rd October 1996 04:00)

(41) **State what communication you had with Dr. David Webb in relation to Claire between 21st October 1996 and c. 04.00 on 23rd October 1996 including:**

(a) **The date and time each communication was made, and the means by which communication was made e.g. in writing, telephone, in person etc.**

(b) **Identify who initiated each communication and the reason for each communication being made.**

(c) **State what information you gave Dr. David Webb about Claire during each communication.**

(d) **State what advice or instructions Dr. David Webb gave you in relation to Claire on each occasion and what the plan of care was for Claire following each communication.**

(e) **Identify any document where each communication is recorded and produce a copy of it.**

(f) **If no communication was made, explain why not.**

(g) **Identify any protocols/guidelines from 22nd October 1996 to date governing the request for and provision of a specialist opinion by another consultant, and the transfer of care and management of a child to another consultant, and furnish copies of it.**

I was not involved in the daytime care of Claire on 21 October 1996. I was not involved in the daytime care on 22 October 1996.

I was the registrar on call the night of the 22nd of October 1996.

No documentation exists regarding communication between me and Dr Webb.

Re (g): I am not aware of any protocols.

(42) **Identify the Paediatric Registrar who 'handed over' Claire's management, treatment and care to you, and the time at which this care was handed over.**

(a) **State what information you were given by that Registrar about Claire's condition, care and treatment and plan of care.**

I am unable to give details of the handover on the 22nd of October 1996. The handover was informal and I have no notes covering this evening.

(b) **State what information you were given by that Registrar about the identity of the consultant who was responsible for Claire's treatment and care on 22nd October and 23rd October 1996.**

I am unable to answer point b – I have no notes about the handover of that evening.

(43) **Explain the nature and status of the document entitled 'Discharge/Transfer Advice Note' at Ref: 090-007-009 identify who completed that document and state when and where it was completed.**

Nature of this document:

On admission of a patient to a hospital ward in RBHSC a discharge form would be prepared by the administration staff as part of the chart of the patient prior to the patient going to the ward.

The form is in triplicate- the top page is sent to the GP of the patient, the 2nd page is sent to pharmacy when medication is requested for the patient's discharge and the 3rd page remains in the chart of the patient.

The sections of the form prepared by the administration staff contain the name of the GP, the patient's hospital number and the patients' details. I am unable to identify which member of the administration staff completed this part of the document.

The section of the document covering Admission/Transfer/Discharge is completed by medical staff. I am unable to say who wrote this part of the document or when and where this section was written.

(44) **State whether you are a member of a medical defence organisation. If so, state whether you have communicated with that organisation in relation to the treatment and death of Claire. If so, state when you communicated with it.**

(45) **Describe your perception of the seriousness or otherwise of Claire's condition during your care of her, and give the reasons for your view.**

I have not documented my perception of Claire's condition in October 1996.

(46) **Describe your communication with Claire's parents and family and in particular:**

(a) **State what information you communicated to Claire's parents and family, and what information they gave to you.**

(b) **Identify to whom you gave this information.**

(c) **State when and where you told them this information.**

(d) **Identify where the information you communicated/received was recorded or noted.**

(e) **State whether you recorded Claire's parents'/family's understanding of this information and their concerns. If so, identify the documents containing that record. If you did not record this, explain why not.**

(f) **State if you discussed Claire's condition at any time with her parents. If so, state when, who was present, and what was discussed, where this is noted, and if it was not noted, explain why it was not noted.**

(g) **State whether you informed Claire's parents/family of the diagnosis, its implications and the treatment needed. If so, state when you provided this information, to whom and where this communication is recorded. If you did not provide this information, explain why not. If any such communication is not recorded, explain why not.**

There is no documentation regarding my communication with Claire's parents. I do not remember if I spoke to Claire's parents.

(47) **Prior to 21st October 1996:**

(a) **State your knowledge and awareness of the case of Adam Strain, his Inquest and the issues arising from it**

I am unable to say when I first heard about the Adam Strain inquest in 1996.

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

I am unable to state this in 2011. His case has been and continues to be discussed frequently.

(c) **Describe how that knowledge and awareness affected your care and treatment of Claire**

I am unable to answer this question in 2011.

(48) **Since 21st October 1996:**

(a) **State your knowledge and awareness of the case of Adam Strain, his Inquest and the issues arising from it**

I know about the Adam Stain inquest.

The condition of hyponatraemia as a symptom of severe illness has been highlighted by this investigation.

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

I am unable to answer part b of the question.

I am unable to state the source of my knowledge about the Adam Strain enquiry. I am also unable to state when I acquired it.

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

I have been working in acute paediatrics since 1996. Hyponatraemia is a topic I teach to my junior members of staff to ensure they are aware of the dangers of this condition.

Hyponatraemia awareness charts with treatment protocols are available in every treatment room in the RBHSC.

(49) **Describe in detail the education and training you received in fluid management (in particular hyponatraemia) and record keeping through the following, providing dates and names of the institutions/bodies:**

(a) **Undergraduate level**

(b) **Postgraduate level**

(c) **Hospital induction programmes**

(d) **Continuous professional development**

I am unable to answer this question for a, b and c.

I qualified in 1988. Since then I have worked in numerous hospitals in Northern Ireland and in Toronto, Canada. I do not recall the details of all the hospital induction programmes I attended throughout my career

The annual appraisal of my consultant post includes a review of essential learning topics required by the Belfast Trust. The hyponatraemia topic is one of the topics requiring yearly revision.

(50) **Prior to 21st October 1996, 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**

I have dealt with severely unwell patients throughout the whole period of my paediatric practice. I am therefore unable to provide the data requested. Hyponatraemia is not an uncommon electrolyte abnormality in unwell children for a variety of clinical conditions.

(b) **Number of the children who were aged less than 10 years old**

The majority of paediatric patients admitted to hospital are less than 5 years old (approx 50% aged less than 5 years)

(c) **Nature of your involvement**

I have been one of the members of the medical teams treating sick and very sick children.

(d) **Outcome for the children**

I am unable to comment on the outcome of the children with hyponatraemia. Sick children we treat in a paediatric hospital are a highly vulnerable and unstable group of patients. Significant deterioration frequently occurs.

I cannot recall how many patients I treated who had hyponatraemia or their outcomes.

(51) **Since 21st October 1996, 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**

I am unable to provide the data requested. I have treated severely unwell children since 1996. Hyponatraemia is not uncommon in severely unwell children.

(b) **Number of the children who were aged less than 10 years old**

I am unable to say how many children I treated with this condition.

(c) **Nature of your involvement**

I am a member of the paediatric teams treating very sick children - hyponatraemia is one of the conditions which can occur in this patient group.

(d) **Outcome for the children**

I cannot recall the number of patients I have seen since 1996 who had hyponatraemia or their outcomes.

(52) **Identify any 'Protocols' and/or 'Guidelines' which governed Claire's care and treatment.**

I am unable to do so.

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

(a) **The care and treatment of Claire from her attendance on 21st October 1996 to her death on 23rd October 1996**

(b) **Record keeping**

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

(d) **Lessons learned from Claire's death and how that has affected your practice**

(e) **Current Protocols and procedures**

(f) **Any other relevant matter**

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

Signed: Brigitte Christine Bartholomé **Dated:** 22nd January 2012