Witness Statement Ref. No. 330/1

**NAME OF CHILD: Raychel Ferguson**

**Name: Robert Taylor**

**Title: Dr.**

**Present position and institution:**

**Consultant Paediatric Anaesthetist- Royal Belfast Hospital for Sick Children ("RBHSC").**

**Previous position and institution:**
*[As at the time of the child's death]*
**Consultant Paediatric Anaesthetist- Royal Belfast Hospital for Sick Children ("RBHSC").**

**Membership of Advisory Panels and Committees:**
*[Identify by date and title all of those between November 1995-present]*

*1997-8 Provision of Paediatric Surgical Services Working Party*
*30th September 1997. Regional Working Group on the care of Acutely Ill Children; Sub-Group on Paediatric Intensive Care.*
*1998-2005, Local Advisory Paramedic Steering Committee*
*1997-98, EH&SSB Working Party on Meningococcal Disease,*
*1999-2005, Sick Child Liaison Group*
*2001-2, Hyponatraemia Working Party*
*2002, Paediatric Long-term Ventilation Working Party*
*2003-4, Neonatal/Paediatric Interhospital Transport Working Party*
*2003-5, Chairman, Clinical Audit Committee, RGH Trust*
*2008-10, End-of life Working Party. General Medical Council, London*
*2002-13, Clinical Ethics Committee, RGH Trust then Belfast HSC Trust*
*2007-12, Clinical Ethics Committee, NI Hospice*

**Previous Statements, Depositions and Reports:**
*[Identify by date and title all those made in relation to the child's death]*

**None for this child's death**

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

| Ref: | Date: | |
|---|---|---|

| | | |
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*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 such a number then please provide a copy of the document.*

(1) **In relation to the statement made to the PSNI on 14th March 2006 by Dr. Nesbitt (former Clinical Director in Anaesthesia & Critical Care- Altnagelvin HHSST) in respect of a conversation in June 2001 when he *"spoke to Dr. Chisakuta, a Consultant in Paediatric Anaesthesia and Intensive Care in the RBHSC about their [the RBHSC's] use of No.18 solution in post-operative surgical children and he informed me that they had been using precisely the same regime as Altnagelvin Hospital but had changed from No.18 solution six months previously because of concerns about the possibility of low sodium levels. This was also the position in Tyrone County Hospital"* (Ref: 095-010-040) please state:**

(a) **Whether the RBHSC had *"changed from No.18 Solution six months previously"*?**

**I was not aware of a decision being made in such clear cut terms. Solution 18 is still available in certain controlled areas of the RBHSC and may be administered if clinically indicated under careful monitoring conditions. I believe its use was restricted by the Trust at some stage after the death of Raychel Ferguson. I do not know the date when its prescription was restricted. This would be best answered by the Trust.**

(b) **Whether the RBHSC had made any change in its use of Solution 18 in the year preceding 10th June 2001?**

(c) **If such change occurred:**

- **What was the change;**
- **When did it occur;**
- **Did such change occur prior to the death of Raychel Ferguson;**
- **What were the reasons for the change;**
- **Who was responsible for the change;**
- **Were you informed of the change;**
- **If such a change occurred how was it implemented and by whom;**
- **Would the Medical Director have been aware of the change;**
- **Was the change communicated to any other hospital committees, advisory groups, sub-committees or working parties, either then or subsequently;**
- **Whether any steps were taken to disseminate this information to the wider medical community (if so please detail to whom such information was disseminated, and if not please indicate why not);**

- Whether any steps were taken to disseminate this information to the Altnagelvin Hospital (if so please detail to whom such information was disseminated, and if not please indicate why not);

- Whether any steps were taken to disseminate this information to the Tyrone County Hospital (if so please detail to whom such information was disseminated, and if not please indicate why not);

- Whether any steps were taken to disseminate this information to Craigavon Area Hospital (if so please detail to whom such information was disseminated, and if not please indicate why not)?

(2) In relation to Dr. Ian Carson's email to the Chief Medical Officer, dated 30th July 2001, and his introductory comment *"Please find attached document on the above subject drawn up by Dr. Bob Taylor and his colleagues. It reflects current 'opinion' among experts in the management of these children, however it does not yet command full support amongst Paediatricians"* (Ref: 026-016-031) please:

(a) Identify this document;

I do not know what document Dr Carson attached to his email.

(b) Explain why it had not yet commanded the full support of Paediatricians?

I do not know what document Dr Carson attached to his email.

(3) In relation to the same email and Dr. Ian Carson's assertion that *"the problem today of 'dilutional hyponatraemia' is well recognised (see reference to BMJ Editorial). The anaesthetists in RBHSC would have approx. 1 referral from within the Hospital per month. There was also a previous death approx. 6 yrs ago in a child from the Mid-Ulster. Bob Taylor thinks that there have been 5-6 deaths over a 10 year period of children with seizures"* please state:

(a) Whether you provided these figures;

I do not recall providing these figures and have no records of such.

(b) Whether these figures appear plausible to you;

1 case of hyponatraemia per month from within the hospital may have been a plausible number if it includes all children with sodium below 135 mmol/l. 5-6 deaths over 10 years does not appear plausible to me.

(c) Do you know anything about the child from the Mid-Ulster and if so what?

I do not know anything about a "child from the Mid-Ulster"

(4) Was Raychel Ferguson's case reported as an Adverse Incident within the RBHSC in accordance with the Policy TP9/00?

I do not know.

(5) Was the case of Raychel Ferguson presented at an Audit or Mortality meeting? If so when and by whom? If possible please provide a minute thereof.

I do not know. The Trust should be able to answer this. I would not retain or store the minutes personally.

(6) Was there any discussion of, or reference to Raychel's case at any other meeting, whether Committee, Grand Round or Training? If so, please provide any record thereof.

Not to my knowledge.

(7) Was Raychel's death reported to NCEPOD by the RBHSC?

I do not know.

(8) Was there any reference to Raychel's case at any hospital committee meeting or in any other healthcare context? If so, please provide any record thereof.

The only possible reference I was aware of to Raychel's case was to the SCLG as given in Answer to Q7(d) WS-280-1 "I do not recall Raychel's death being discussed. The purpose of this group was to agree best practice guidelines for improving the stabilisation and transfer of children to the PICU. It was not intended as a forum for the review or investigation of child deaths. I believe I informed those present that a Hyponatraemia Working Group was being set up by the DHSSPSNI following Raychel's death." (093-035-110)

(9) Was there any use made of learning derived from Raychel's case in any training or educational context? If so please provide detail.

I do not know of any educational context prior to the DHSSPSNI working party guidelines.

(10) Whether you had any communication with anyone in the AHHST/ Altnagelvin Hospital in respect of the death of Raychel Ferguson (and if so please specify)?

It appears from a document forwarded to me by the Inquiry that I sent a covering note dated the 4th November 2002 to Dr Nesbitt with which I attached correspondence with the Medicines Control Agency including Dr Cheung's response to the "yellow card" (007-017-034)

(11) Do you have any comment to make on the necessity of transferring Raychel from Altnagelvin to Belfast given her condition?

I do not think it was/is unusual for a child to be transferred to the PICU such as Raychel as it was/is the only unit in Northern Ireland where children can be ventilated and monitored.

(12) Regarding Mrs. Burnside's email to the Chief Medical Officer dated 3rd June 2004 (Ref: 023-021-048) and her statement that *"Altnagelvin heard a 'rumour' from Paediatrics Intensive Care Unit that the 'wrong fluids' had been used. This 'rumour' emerged from a nurse in Paediatrics Intensive Care Unit responding to an enquiry from Altnagelvin's Ward Nurse on the child's state, on the Sunday"* please indicate:

(a) Whether you know the source of this rumour;

I do not.

(b) Whether you shared this opinion at that time?

I was not in the hospital on that Sunday and therefore could not share that opinion. I later completed a "yellow card" on Raychel's fluid management and did believe that solution No 18 contributed to her death.

(13) In relation to the notes of the first meeting of the Working Group for the Prevention of Hyponatraemia dated 26th September 2001 (Ref: 007-048-094) in which it is noted that you undertook to *"inform CSM of a recent death in Altnagelvin Hospital associated with hyponatraemia"* please state why Dr. Nesbitt might not have undertaken this responsibility on behalf of the Altnagelvin Hospital?

I do not know.

(14) In respect of the Working Party on the Prevention of Hyponatraemia with which you were engaged in 2001-2002 please state:

(a) Whether the case of Raychel Ferguson came to the attention of the Working Group;

Yes.

(b) Whether the case of Lucy Crawford came to the attention of the Working Group;

I do not recall her case being discussed.

(c) Whether the case of Adam Strain came to the attention of the Working Group;

I do not recall his case being discussed.

(d) Whether the case of Claire Roberts came to the attention of the Working Group?

I do not recall her case being discussed.

(15) In relation to the Special Advisory Committee to the CMO upon which you served please state:

None of these cases were mentioned at the SAC to my knowledge. I believe that manpower planning, Paediatric Critical care and long term ventilation in Northern Ireland was the purpose of the SAC.

(a) Whether the case of Raychel Ferguson came to the attention of the Special Advisory Committee;

(b) Whether the case of Lucy Crawford came to the attention of the Special Advisory Committee;

(c) Whether the case of Adam Strain came to the attention of the Special Advisory Committee;

(d) Whether the case of Claire Roberts came to the attention of the Special Advisory Committee?

(16) In respect of the letter dated 3rd December 2002 (Ref: 160-084-001) and the statement *"I would confirm that I had furnished counsel with the copy correspondence to/from Mr. Taylor, which*

*was shared with me by Dr. Nesbitt at our Review Meeting"* please:

(a) State whether this refers to you;

Without sight of the correspondence I do not know.

(b) Supply copy of this correspondence;

I can not.

(c) State whether you were asked to comment on the content of Dr. Sumner's Report, and whether you took any issue with the accuracy of the same?

I was not asked to comment on Dr Sumners report.

(17) In respect of your letter to the Medicines Control Agency of 23rd October 2001 (Ref: 012-071e-412) and your statement *"I am also conducting an audit of all infants and children admitted to the PICU with hyponatraemia. My initial results indicate at least two other deaths attributable to the use of 0.18 Na Cl/ 4% Glucose"* please:

(a) State whether your audit was reduced to writing and if so kindly furnish a copy thereof;

I believe this was the PICU data presented in the draft bar chart. (007-051-103)

(b) Identify the sources of your information;

This information was prepared for me by the PICU secretary from the PICU database.

(c) Identify the other two deaths referred to?

I cannot identify the other two deaths.

(18) In relation to the *"Incidence of Hyponatraemia RBHSC"* statistical chart presented by Dr. Nesbitt in his Powerpoint presentation (Ref: 021-054-126) please state:

(a) How Dr. Nesbitt obtained this information;

I do not know.

(b) Whether your chart was provided to Dr. Nesbitt;

I do not know.

(c) Whether you knew that Dr. Nesbitt was going to utilise your chart as part of his exposition on hyponatraemia to the Altnagelvin HHSST, WHSSC and Chief Medical Officer for Northern Ireland;

I have no knowledge of whether he did or not.

(d) Whether you told Dr. Nesbitt that you had decided not to make use of your chart?

I cannot recall ever discussing my chart with Dr Nesbitt. The decision not to make use of the chart was not taken by me.

(19) In relation to your letter to H.M. Coroner dated 23rd February 2003 (Ref: 064-006-033) and your statement *"I have been campaigning to get a ban on the use of 0.18% Na CL/4% Glucose in hospitals"* please indicate:

(a) When you commenced your campaign;

I think this refers to my correspondence with the MCA around September/October 2001.

(b) What the primary impetus was for your campaign;

I think the impetus for my correspondence was the death of Raychel Ferguson.

(c) Whether you raised this issue within the RBHSC prior to 10th June 2001;

No.

(d) Whether any part of your campaign was recorded by minute, note or memorandum?

The correspondence with the MCA is at 007-032-059, 007-033-060, 007-017-034. There is further correspondence which came about as the result of the Working Party on Hyponatraemia.

(20) In respect of the RBHSC role as a Regional Centre of Excellence/ Teaching Hospital do you consider it to have held any particular responsibility for the dissemination of learning and good practice to Area Hospitals in Northern Ireland 1995-2005?

RBHSC had a role in the education and training of trainees who rotated through the hospital. Occasionally the paediatric anaesthetists facilitated requests from Consultant Anaesthetists in other NI hospitals to visit theatres and update their clinical skills.

(21) Please describe any links which may have existed between the RBHSC, the Altnagelvin Hospital and the wider medical community with respect to:

(a) Information sharing;

There were no formal links for information sharing that I was aware of, but there may have been at managerial level. There were Ad Hoc groups that I was aware of such as the Sick Child Liaison Group and the Paediatric Anaesthetic group.

(b) Coordination of education, training and medical updates;

There were no formal links that I was aware of. Informally one might bump into colleagues at meetings of the professional societies such as The Northern Ireland Society of Anaesthetists (NISA).

(c) Issues of referral;

I do not know about any links with other NI hospitals in terms of issues of referral.

(d) Correlation of clinical guidelines;

I was not aware of formal direct links. However the DHSSPSNI, may be able to provide further information on this. On an Ad Hoc basis The Sick Child Liaison Group developed two sets of clinical guidelines in Meningococcal Disease and Bronchiolitis for paediatricians and anaesthetists

in Northern Ireland.

(e) Issues of communication.

I do not believe there were any formal or Trust processes or procedures dealing with issues of communication between NI hospitals.

(22) Please detail your involvement with the Paediatric Intensive Care Society, detailing the areas of your involvement, those committees upon which you served and any research pursued within the context of this Society.

I was co-opted onto the PICS council for several years to represent Northern Ireland. This dealt with matters such as PICU medical and nursing manpower and training standards. I do not recall any research undertaken by PICS Council.

(23) Please provide such additional comment as you think appropriate. It would be of very considerable assistance if you could also attach any such further document that may be helpful.

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

Signed: [signature] Dated: 22/5/13

**Reply-to:** <ian.carson[redacted]

**From:** "Ian Carson" <ian.carson[redacted]> | Block Address | Add to Address Book

**To:** "'Craughwell

**Subject:** RE: electrolyte balance in post operative children

**Date:** Fri, 27 Jul 2001 14:47:02 +0100

I will ask Dr Bob Taylor, Consultant Anaesthetist RBHSC, to consider drafting advice and guidance suitable for dissemination throughout the HPSS.
Yours, IWC

-----Original Message-----
From: Craughwell, Eva [mailto:eva.craugwell[redacted]
Sent: 27 July 2001 11:36
To: 'ian.carson[redacted]
Subject: FW: electolyte balance in post operative children

Dr Carson

With reference to Stella Burnside's e-mail is there anyone at RBHSC who could put together a short paper on this? I would be happy to disseminate
any such advice.

HENRIETTA CAMPBELL (Dr)

> ----------
> From: Craughwell, Eva
> Sent: 27 July 2001 11:34
> To: 'Sally Doherty'
> Subject: RE: electolyte balance in post operative children
>
> Stella
>
>
> Thank you for your e-mail. I had not taken any action as the DsPH had
> told me that they would take this in hand at local level. However I will
> now take steps to personally oversee this in line with your suggestions.
>
>
>
> HENRIETTA CAMPBELL (Dr)
>
> ----------
> From: Sally Doherty[SMTP:SDoherty[redacted]
> Sent: 26 July 2001 11:07
> To: 'Henrietta.campbell[redacted]
> Subject: electolyte balance in post operative children
>
>

**PREVENTION OF HYPONATRAEMIA IN CHILDREN RECEIVING INTRAVENOUS FLUIDS**

## INTRODUCTION

- Hyponatraemia is extremely serious and can occur in any sick child.
- In a sick child the potent anti-diuretic hormone (ADH) response causes fluid retention. The administration of excess or inappropriate fluid can result in cerebral oedema, seizures and death.
- Any sick child is at risk of hyponatraemia. Those at particular risk include:
  - Post-operative patients.
  - CNS injuries
  - Bronchiolitis
  - Burns
  - Vomiting
- Hyponatraemia is most likely to occur in children who are receiving IV fluids. It can however occur in sick children taking fluids orally.

## BASELINE ASSESSMENT

Before starting IV fluids on any child:

- Weigh accurately – In kg. [In a bed-bound child use best estimate]
- Plot on centile chart or refer to normal range.
- Take a Baseline U&E
- Calculate fluid needs accurately including:

| | |
|---|---|
| **Maintenance** Fluid | For first 10kg – 4 mls/kg/hr<br>For second 10kg – 40mls + 2mls/kg/hr<br>For each additional kg- 60 mls + 1ml.kg.hr |
| **Replacement** Fluid | Must always be considered and prescribed separately.<br>Must reflect fluid loss.<br>Must replace loss with most appropriate fluid. |

## MONITOR

- Reassess fluid balance regularly. This must be done by an experienced member of clinical staff.
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- Reassess fluid balance regularly. This must be done by an experienced member of clinical staff.
- Monitor all oral fluids (including medicines) and reduce IV intake by

equivalent amount.

- Monitor all losses – urine, diarrhoea vomiting etc.
- Regular blood sampling for U&E may be difficult but remains **essential**.
    - At least once a day but more often if there are significant fluid losses or additions or if clinical course is not as expected.
    - The rate at which Na+ falls is as important as the level. A Na+ that falls quickly may indicate an impending crisis.
    - Consider using an indwelling heparinised cannula to facilitate repeat U&Es.
    - Do not take sample from the same limb as the IV infusion.
    - Capillary samples may be adequate.
    - Near-patient testing may be indicated if local circumstances prevent a prompt lab result.
    - Urinary sample: If plasma Na+ is low, check urinary osmolarity. A urinary osmolarity greater than the plasma osmolarity indicates fluid retention/hyponatraemia.

## CHOICE OF FLUID

Fluid and electrolyte requirements vary as a function of metabolic activity.

- The choice of maintenance fluids will be influenced by anticipated sodium, potassium and glucose requirements.
- The choice of replacement IV fluids will depend on replacement needs, eg fluid loss for vomiting etc.

Hyponatraemia may occur in children receiving **any** IV fluid. Vigilance is needed for all children receiving fluids.

## SEEK ADVICE

Advice and clinical input may be obtained readily from a senior member of medical staff including:

Consultant Paediatrician
Consultant Anaesthetist
Consultant Chemical Pathologists

- In the event of problems that cannot be resolved locally, help should be sought from consultant paediatricians/anaesthetists at the PICU, RBHSC.

MM11-10

Current Paediatrics 1999(9)51-56
Wilkins

# PREVENTION OF HYPONATRAEMIA IN CHILDREN RECEIVING IV FLUIDS

## INTRODUCTION

Definition of dilutional hyponatraemia – who/when/how

Healthy children v sick children

At risk – post op etc

## PREVENTING HYPONATRAEMIA

Weigh child – Accurately
In kg only

Check electrolytes - Daily while on IVs

Check fluid balance – Accurate
Complete

Index of suspicion - Vomiting etc

## CHOICE OF FLUIDS

Perioperative period - 1st 12 hours
12-24 hours
Reassess 24 hours

Medical inpatient

Other circumstances eg head injury

## REFERRAL TO PICU

Acutely ill
Sodium < ?

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