Witness Statement Ref. No. WS-321/1

NAME OF CHILD: RAYCHEL FERGUSON PRELIMINARY (LUCY CRAWFORD)

Name: A W Boon

Title: Doctor

Present position and institution:

Retired Consultant Paediatrician

Previous position and institution:
[As at the time of the child's death]

Consultant Paediatrician, Royal Berkshire Hospital, Reading

Membership of Advisory Panels and Committees:
[Identify by date and title all of those since January 2000 to present]

Vice Chair of the Part II Board MRCPCH 2002-
Member of the Certification Appeals Panel PMETB and subsequently GMC 2000-2012
Chair, Scientific Committee, Foundation for the Study of Infant Deaths (FSID) 2004-
Trustee and Board Member, FSID 2004-
Member of NACECH (National Advisory Committee for Enquiries into Child Health) 2007-2009
Chair of the General Paediatric College Specialty Advisory Committee at the RCPCH 1997-2005

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

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

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) Please address the following questions with regard to your qualifications, experience and occupation and/or posts held, and provide a copy of your CV:

(a) State your medical and professional qualifications, and the date on which they were obtained; CV appended)

MBBS (Hons)	1971
MRCP (UK)	1974
DCH	1975
MD	1981
FRCP	1992
FRCPCH	1997

(b) Specify in chronological order the various professional/medical posts which you have held, and the name of your employer in each case; (CV appended)

01/01/1972-30/06/1972	Pre-reg HO	St Bartholomew's Hospital
01/07/1972-31/12/1972	Pre-reg HO	Royal Berkshire Hospital
01/01/1973-31/12/1973	SHO	Royal Berkshire Hospital
01/01/1974-31/12/1974		Kingston Hospital
01/01/1975-30/04/1975		Hackney Hospital
01/05/1975-31/08/1975		St. Bartholomew's Hospital
01/09/1975-31/12/1975		Queen Elizabeth Hospital for Children, London
01/01/1976-30/06/1976		Great Ormond Street Hospital
01/09/1976-31/12/1977	Registrar:	Children's Hospital and City Hospital, Nottingham
01/01/1978-31/12/1979	Research Fellow:	Nottingham
01/01/1980-31/08/1981	Senior Registrar	Great Ormond Street Hospital
01/09/1981-31/03/1986	Senior Lecturer / Honorary Consultant Paediatrician	

		Northern General Hospital, Jessop Hospital for Women, and Children's Hospital, Sheffield
01/04/1986-30/06/2011	Consultant Paediatrician	Royal Berkshire Hospital Foundation Trust

(c) Describe your role within or your association with the Royal College of Paediatrics and Child Health ('RCPCH') during your professional career.

Regional Representative and Member of Council of BPA and RCPCH 1994-2000
Examiner for the Royal College of Paediatrics and Child Health 1989-
Vice Chair of the Part II Board MRCPCH 2002-
Overseas examiner for the Royal College of Paediatrics and Child Health 1998-
External Professional Reviewer for the RCPCH 1997-2003
Chair of the General Paediatric College Specialty Advisory Committee of the RCPCH 1997-2005
College Representative on Consultant appointment committees 1998-2011

(2) In 2002 you co-authored a report with Dr. Moira Stewart as part of a RCPCH External Review which examined issues relating to a Dr. J. O'Donohoe (Consultant Paediatrician) at the Erne Hospital.

In the report you and Dr. Stewart reached the following conclusion:

"The prescription for the fluid therapy for LC was very poorly documented and it was not at all clear what fluid regime was being requested for this girl. With the benefit of hindsight there seems to be little doubt that this girl died from unrecognised hyponatraemia although at that time this was not so well recognised as at present." **[Ref: 036a-150-312]**

Arising out of that conclusion please address the following questions:

(a) Explain what you meant in this context by the phrase, *"with the benefit of hindsight."*

This phrase refers to an analysis of the medical events relating to LC's death with the application of information which may not have been available at the time of her death. For example an audit was published in the BMJ in 2001 under Lesson of the Week by Halberthal M et al: Acute hyponatraemia in children admitted to hospital: retrospective analysis of factors contributing to its development and resolution. This drew attention to the avoidance of hypotonic fluids in acutely ill children.

BMJ 2001; 322; 780 (Published 31 March 2001)

(b) Explain what you meant when you concluded that hyponatraemia was *"not so well recognised"* as it was at the time you were writing your report.

It was not until 28th March 2007 that the NPSA (National Patient Safety Agency) published Safety Alert 22: Reducing the risk of hyponatraemia when administering intravenous infusions to children. In this document they made the following statement: "The development

of fluid-induced hyponatraemia (a plasma sodium of less than 135mmol/L) in the previously well child **... may not be well recognized by clinicians."**

(c) **Explain what you meant when you concluded that LC *"died from unrecognised hyponatraemia."***

By unrecognised hyponatraemia we meant that it had not been recognized by the Paediatricians managing her care.

(d) **Identify all of the factors that you took into account when concluding that LC died from hyponatraemia. In particular, please identify any note, record, document, information or expression of opinion which led you to reach this conclusion.**

Dr Stewart and I discussed the events leading up to LC's death in great detail. From memory, the documentation in the notes was poor. I do not have her hospital records to hand. However I recollect that it was clear that she had suffered an acute neurological deterioration in association with a fall in serum sodium which is consistent with acute cerebral oedema resulting from hyponatraemia.

(3) **In a draft of the report prepared by yourself and Dr. Stewart the following conclusion appears:**

***"...more attention to the detail of the fluid therapy might possibly have avoided this girl's cerebral oedema and fatal outcome."*(WS-298/3, page 7)**

(a) **Do you stand by this conclusion?**

Yes

(b) **Please explain why this conclusion did not appear in your final report?**

Dr Stewart and I undertook an External Review on behalf of the RCPCH. The RCPCH had been contacted by Sperrin Lakeland Health and Social Care Trust to look into professional concerns about the clinical competency of Dr O'Donohoe. It was apparent, even from the poor documentation in the notes, that there was evidence of failure to deliver accepted standards of care by other members of staff (including prescription of fluids, input-output records, recording of vital signs during fluid administration). The care delivered by these professionals was outside the remit of the report which was to deal with Professional matters relating to Dr O'Donohoe. In addition, Dr Stewart and I were aware that a separate medico-legal case relating to LC's death was in progress, and we had not been asked to contribute or be involved, or to submit a medical report. For these reasons we restricted our conclusions to dealing with the Professional concerns within the terms of reference.

(c) **Was this conclusion communicated to anyone else, apart from yourself and Dr. Stewart? If so, please identify the person(s) to whom it was communicated. If it wasn't so communicated, fully explain why this was the case.**

The comment that "*...more attention to the detail of the fluid therapy might possibly have avoided this girl's cerebral oedema and fatal outcome*" was not included in the final report or communicated to anyone else for the reasons outlined in (3) (b).

.

(d) Identify all of the factors that you took into account when reaching the conclusion. In particular, please identify any note, record, document, information or expression of opinion which led you to reach this conclusion.

As stated in our report: "*The prescription for fluid therapy for LC was very poorly documented and it was not at all clear what fluid regime was being requested for this girl.*"I remember that Dr Stewart and I chose our words with care in stating that "*...more attention to the detail of the fluid therapy might possibly have avoided this girl's cerebral oedema and fatal outcome*"

I do not have copies of her hospital notes available at present and I arranged for all my notes relating to the External Review to be shredded in June 2011 when I retired from the Royal Berkshire Hospital by which time it was 10 years since the Review. For these reasons I cannot at present provide documentation of any specific note, record, document, information or expression of opinion to substantiate this conclusion. I have looked through the documents on the IHRDNI website, but I have been unable to find this information.

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

Signed: ***A W Boon*** **Dated:3.5.13**

CURRICULUM VITAE

ANDREW WEBSTER BOON

OCCUPATION
Retired Consultant Paediatrician

ADDRESS
Little Chesters, The Street, Eversley, Hook, Hampshire, RG27 0PJ
Email: [redacted]

EDUCATION

Epsom College
Medical College of St Bartholomew's Hospital

QUALIFICATIONS

BSc (Hons Physiology) Upper 2nd	1968
MRCS LRCP	1971
MBBS (Hons)	1971
MRCP (UK)	1974
DCH	1975
MD	1981
FRCP	1992
FRCPCH	1997
Hon FRCPCH	2011

PREVIOUS APPOINTMENTS

Pre-registration appointments:	St Bartholomew's Hospital Royal Berkshire Hospital	
SHO appointments:	Royal Berkshire Hospital Kingston Hospital Hackney Hospital St. Bartholomew's Hospital Queen Elizabeth Hospital for Children, London Great Ormond Street Hospital	
Registrar:	Nottingham	
Research Fellow:	Nottingham	
Senior Registrar:	Great Ormond Street Hospital	
Senior Lecturer / Honorary Consultant Paediatrician	Northern General Hospital, Jessop Hospital for Women, Children's Hospital, Sheffield	1981-1986
Consultant Paediatrician	Royal Berkshire Hospital Foundation Trust	1986-2011

The Royal Berkshire Hospital is one of the largest District General Hospitals in the country. It has approx 820 beds including 66 paediatric beds/cots. The Trust serves a population of 500,000 with

100,000 children under the age of sixteen years. There are currently just over 6,000 births per year at the Trust

TEACHING WHILE AT THE ROYAL BERKSHIRE HOSPITAL

Lectures to Junior Medical Staff
Paediatric Course Organiser and lecturer to the Language Pathology (Speech and Language Therapy) students - Reading University
Regular lectures to GPs on childhood asthma etc both locally and nationally

RESEARCH

Nottingham: Research in neonatal respiration

Sheffield: Research in asthma and neonatal nutrition

Reading: Trials for pharmaceutical companies on Nedocromil and the Babyhaler (an inhaler device for young children)
Research with the Physiology Department of Reading University on chemoreceptor control of respiration in neonates
Research with the Royal Brompton Hospital, London on CNEP (Continuous Negative External Pressure) in the treatment of babies with bronchiolitis
Local co-ordinator of a trial in the use of Exosurf (artificial surfactant) in respiratory distress syndrome
Supervision of research into neonatal analgesia
Collaborative study of oxygenation and breathing movements in healthy neonates
Comparison of nebulised Fluticasone with Prednisolone in acute asthma

DEVELOPMENTS INITIATED IN READING

Setting up of cystic fibrosis clinic
Bereavement counselling for parents of babies suffering neonatal death and SIDS
Development of children's asthma clinic
Establishment of home intravenous antibiotic therapy for CF patients
District Co-ordinator for the CONI project (Care of Next Infant after previous cot death)
Setting up of programme for emergency treatment of asthma in schools
Establishment of paediatric allergy service

OTHER RESPONSIBILITIES

Lecturer/course organiser/examiner -- Language Pathology Course, Reading University
Examiner for the Royal College of Paediatrics and Child Health (ongoing)
Vice Chair of the Part II Board MRCPCH (ongoing)
Member of the Certification Appeals Panel – GMC
Chair, Scientific Committee – Foundation for the Study of Infant Deaths (ongoing)
Trustee and Board Member – FSID (ongoing)
Member of NACECH (National Advisory Committee for Enquiries into Child Health)
Overseas examiner for the Royal College of Paediatrics and Child Health
External Professional Reviewer for the RCPCH
College Representative on Consultant appointment committees

PREVIOUS RESPONSIBILITIES

1996-2000	Clinical Director Paediatrics Royal Berkshire Hospital
2004-2007	Divisional Director Women's and Children's services Royal Berkshire Hospital
1997-2005	Chair of the General Paediatric College Specialty Advisory Committee at the RCPCH
2001-2007	First Convenor of the British Association of General Paediatrics
1992-1999	Member of the Clinical Problem Solving panel of PLAB
1997-1999	Paediatric adviser to the Medicines Control Agency at the Department of Health looking into the measles vaccine and autism

I had regular Annual Appraisals and I was up to date with my CPD and in Good Standing with the Royal College of Paediatrics and Child Health at the time of my retirement.

PUBLICATIONS

1. MISSEN A J, PEMBERTON J, **BOON AW**
Gastro-bronchial fistula
Postgraduate Medical Journal (1974) 50, 504-507

2. **BOON A W**, MILNER A D , HOPKIN IE
Physiological Responses of the Newborn Infant to Resuscitation
Archives of Disease in Childhood (1979) 54, 492-498

3. **BOON A W** , MILNER A D , HOPKIN IE
Lung Expansion, tidal exchange and formation of the functional residual capacity during resuscitation of asphyxiated neonates
Journal of Pediatrics (1979) 95, 1031-1036

4. MILNER A D, **BOON A W**, SAUNDERS R A, HOPKIN I E
Upper airways obstruction and apnoea in preterm babies
Archives of Disease in Childhood (1980) 55, 22-25

5. **BOON A W**, MILNER A D, HOPKIN I E
Lung volumes and lung mechanics in babies born vaginally and by elective and emergency lower segmental Caesarean section
Journal of Pediatrics (1981) 98, 812-815

6. **BOON A W**, WARD-McQUAID J M, MILNER A D, HOPKIN I E
Thoracic gas volume, helium functional residual capacity and air-trapping in the first six hours of life: the effect of oxygen administration
Early Human Development (1981) 5, 157-66

7. VYAS H, MILNER A D, HOPKIN I E, **BOON A W**
Physiologic responses to prolonged and slow-rise inflation in the resuscitation of the asphyxiated newborn infant
Journal of Pediatrics (1981) 99, 635-639

8. MURPHY H P, AND **BOON A W**
Variable intrathoracic airway obstruction masquerading as asthma
British Medical Journal (1983) 287, 1795

9. TSANAKAS J N, BANNISTER O M, **BOON A W,** MILNER RD
The peak flow whistle: a simple device for monitoring peak flow in children
British Medical Journal (1986) 293 (6559) 1410

10. TSANAKAS J N, BANNISTER O M, **BOON A W,** MILNER RD
The 'Sport-Tester': a device for monitoring the free running test
Archives of Disease in Childhood (1986) 61, 912-914

11. HOSKYNS E W, MILNER A D, **BOON A W,** VYAS H, HOPKIN I E
Endotracheal resuscitation of preterm infants at birth
Archives of Disease in Childhood (1987) 62, 663-666

12. NAIK D R, BOILIA A, **BOON A W**
Demonstration of a lactobezoar by ultrasound
British Journal of radiology (1987) 60, 506-508

13. TSANAKAS J N, WILSON A J, **BOON A W**
Evaluation of nebulisers for bronchial challenge tests
Archives of Disease in Childhood (1987) 62, 506-508

14. LUCAS A, MORLEY R, COLE T J, BAMFORD M F, **BOON A W,** CROWLE P, DOSSETOR J F, PEARSE R
Maternal fatness and viability of preterm infants
British Medical Journal (1988) 296 (6635), 1495-1497

15. LUCAS A, MORLEY R, HUDSON G J, BAMFORD M F, **BOON A W,** CROWLE P, DOSSETOR J F, PEARSE R
Early sodium intake and later blood pressure in preterm infants
Archives of Disease in Childhood (1988) 63, 656-657

16. TSANAKAS J N, MILNER R D, BANNISTER O M, **BOON A W**
Free running asthma screening test
Archives of Disease in Childhood (1988) 63, 261-265

17. LUCAS A, COLE T J, MORLEY R, LUCAS P J, DAVIS J A, BAMFORD M F, CROWLE P, DOSSETOR J F, PEARSE R, **BOON A W**
Factors associated with maternal choice to provide breast milk for low birth weight infants
Archives of Disease in Childhood (1988) 63, 48-52

18. LUCAS A, MORLEY R, COLE T J, GORE S M, LUCAS P J, CROWLE P, PEARSE R, **BOON A W,** POWELL R
Early diet in preterm babies and developmental status at 18 months
Lancet (1990) 335 (8704), 1477-1481

19. WILLIAMS B A, SMYTH J, **BOON A W,** HANSON M A, KUMAR P, BLANCO C E
Development of respiratory chemoreflexes in response to alteration of tracheal inspired oxygen in the newborn infant
Journal of Physiology (1991) 442, 81-90

20. **BOON A W**
Evaluation of chronic cough

Current Paediatrics (1994) 4, 133-135

21. CALDER N A, WILLIAMS, B A, SMYTH J, **BOON A W**, KUMAR, P, HANSON M A
Absence of ventilator response to alternating breaths of mild hypoxia and air in infants who have had bronchopulmonary dysplasia: implications for the risk of sudden infant death
Pediatric Research (1994) 35(6), 677-681

22. POETS C F, STEBBENS V A, LANG J A, O'BRIEN L M, **BOON A W**, SOUTHALL D P
Arterial oxygen saturation in healthy term neonates
Eur J Pediatrics (1996) 155, 219-223

23. **BOON A W,** FORTON J
How to evaluate a child with chest pain
Current Paediatrics (2004) 14, 65-70

24. STEPHANOU E G, CROCKER M, **BOON A**, STEWART H
Cryptic mosaicism for monosomy 20 identified in renal tract cells
Clinical Genetics (2006) 70(3), 228-232