

Witness Statement Ref. No. 107/2

**NAME OF CHILD:** Adam Strain

**Name:** David Webb

**Title:** Dr

**Present position and institution:**

Consultant Paediatric Neurologist, Our Lady's Hospital, Dublin, Ireland

National Children's Hospital, Tallaght, Dublin, Ireland

**Previous position and institution:**

*[Since your Witness Statement of 12<sup>th</sup> April 2011]*

**Membership of Advisory Panels and Committees:**

*[Identify by date and title all of those since your Witness Statement of 12<sup>th</sup> April 2011]*

**Previous Statements, Depositions and Reports:**

*[Identify by date and title all those since your Witness Statement of 12<sup>th</sup> April 2011]*

**OFFICIAL USE:**

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

Ref:	Date:	
093-021	28.04.2006	PSNI Witness Statement
107/1	12.04.2011	Inquiry Witness Statement

**IMPORTANT INSTRUCTIONS FOR ANSWERING:**

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.

**I QUERIES ARISING OUT OF YOUR INITIAL WITNESS STATEMENT**

With reference to your witness statement dated 12<sup>th</sup> April 2011, please provide clarification and/or further information in respect of the following:

**(1) Answer to Question 1(b) at p.2:**

*"I considered my role and responsibilities in relation to Adam Strain to be to assess his level of consciousness and undertake clinical assessments of his brain-stem function. I was also asked to consider an explanation for his brain swelling which I understood from his medical team to be unexpected and unexplained."*

**(a) Identify the person(s) who asked you to "consider an explanation for [Adam's] brain swelling".**

I cannot recall who exactly asked me to consider an explanation for Adam's brain swelling, or indeed if anyone did. I may have simply thought it was appropriate for me to try and give an explanation for the cause of Adam's brain swelling when I saw him, without anyone having specifically asked me to do so. The notes record at 058-035-138 that I had been contacted and was to come that evening around 7pm. The notes further record my assessment following that request at 058-035-139, 140.

**(b) State when and where that happened.**

I cannot recall precisely but expect I received that call whilst I was in Derry.

**(c) State whether you did "consider an explanation for [Adam's] brain swelling" and if so: (i) what that was; (ii) to whom you communicated it, when and where; (iii) what happened as a result of that and (iv) identify any document in which your considered view is recorded.**

I considered the cause of Adam's symptoms to have been cerebral oedema. Since his cardio-respiratory monitoring had apparently been satisfactory throughout the operation, and there was no evidence of brain haemorrhage or infarction, I was unsure as to the cause of the brain swelling. I did some research to see if I could identify any likely causes and found some references to osmotic disequilibrium syndrome. I thought that was a possible explanation for the cause of the brain swelling and communicated it to other members of the team by recording it in the notes at 058-035-140.

**(d) Identify the members of Adam's "medical team" from whom you understood Adam's brain swelling was "unexpected and unexplained".**

I cannot recall exactly who I spoke to. I believe I probably spoke to a member of nursing staff when I arrived to see Adam. My understanding was that the cause of the brain swelling was unexpected and unexplained at that stage but I could not say precisely from whom I formed that understanding. The notes record that I performed brain stem testing with Dr Campbell and Dr O'Connor, so I must have had some contact with both of them. I must also have had some contact with members of the anaesthetic team to perform the apnoea testing which forms part of the brain stem testing, as a member

of the anaesthetic team would have been required to be on hand for those tests.

(e) Describe and explain any discussions that you had with members of Adam's "medical team" about his condition and state when and where those discussions took place.

From the notes it appears that I spoke to someone in the afternoon of 27<sup>th</sup> November 1995 when someone appears to have called me to request that I assess Adam. I cannot recall the content of our conversation but I expect that during that conversation I was provided with some background into Adam's case and asked to come and assess him. I agreed to come and assess him upon my return to Belfast at around 7pm that night.

On arrival in the Intensive Care Unit I spoke to the nurse looking after Adam who I believe briefed me on Adam's condition.

I also had contact with Dr O'Connor and Dr Campbell as they assisted with brain stem testing. I must also have had some contact with members of the anaesthetic team. I may well have spoken to others but I cannot now, with the passage of time, recall.

(2) Answer to Question 2(c) at p.3:

*"I do recall that Adam's brain swelling was considered to be unexpected by the Transplant, Anaesthetic and Nephrology teams as his cardio-respiratory monitoring had been satisfactory throughout the operation."*

(a) Identify the members of Adam's: (i) Transplant; (ii) Anaesthetic; and (iii) Nephrology teams who considered "Adam's brain swelling ... to be unexpected".

(b) Describe and explain the basis upon which you understand that they considered it to be "unexpected".

My recollection is that the brain swelling was considered to be unexpected by all of those involved in Adam's care since his cardio respiratory monitoring had been satisfactory throughout the operation. I cannot recall from whom I gained that information. It is likely that I obtained that information partially from the notes and partly from speaking to others involved in Adam's care. I cannot speak for others but my view would have been that the most likely cause for brain swelling in an operation of this sort would have been a fall in blood pressure or lack of oxygen during the procedure. Since neither seemed to have occurred during the operation, Adam's condition post operatively was unexpected.

(3) Answer to Question 3(a) at p.3:

*"I was not aware that Adam Strain was severely Hyponatraemic following his operation. He was being cared for in an intensive care setting and was being ventilated after a kidney transplant. The predominant function of the kidney is to maintain normal fluid balance and blood biochemistry so in the absence of an abnormality that would have been known to the kidney transplant team I sought an alternative cause that could have explained brain swelling in a boy who was in renal failure and had undergone dialysis and renal transplant."*

*I found evidence for an osmotic disequilibrium syndrome that was thought to occur because of shifts in urea concentration between blood and brain and was associated with brain swelling. While this had been described following renal dialysis I speculated that it might have played some role in Adam's case (1,2). Later references on the subject are also enclosed (3,4,5)."*

**(a) Describe and explain the evidence you found "for an osmotic disequilibrium syndrome" in your letter to George Murnaghan dated 12<sup>th</sup> December 1995 (Ref: 059-061-147).**

Adam's brain CT demonstrated cerebral oedema but provided no evidence of a brain injury (bleed, stroke) that might be associated with vasogenic brain oedema. I therefore thought the cerebral oedema may have been due to a cytotoxic process. I was unsure as to the mechanism involved and did some research to see if I could find any explanation for the cerebral oedema. I cannot now recall precisely which articles I found when I did my research, but in preparing my statement to the inquiry dated 12<sup>th</sup> April 2011, I tried to emulate the research I would have carried out and came up with the references labelled 1 and 2 in my answer to question 3(a). Those articles described osmotic disequilibrium in the context of renal dialysis and I speculated that since Adam was undergoing renal transplant at the time, that a similar process might have been responsible for the fluid shift which led to his cerebral oedema. I do not think I was aware of the low sodium level recorded in the notes at 058-035-138. It seems to have been written in the margin and may have been written after my consultation. It is also possible however that, in reviewing the notes, I overlooked it. I am fairly sure that no-one informed me that the sodium level was so low, because if I had been aware of the low sodium, I would have considered Hyponatraemia to be the likely cause of the fluid shift, and I would not have had to go and conduct research to find an explanation.

**(b) State what you did about the evidence that you had found and give the reasons for your conduct.**

I recorded my impression of Adam's condition in my note. I had already conducted testing for brain stem death and concluded that Adam's condition was compatible with brain stem death. I indicated that I would be free to repeat the tests the following day. My impression about the cause of his cerebral oedema had in my view, no additional therapeutic implications since he was already receiving appropriate management for that - i.e. he had been prescribed Mannitol and was having his fluids managed by the experts in fluid management.

**(4) Answer to Question 8 at p.6:**

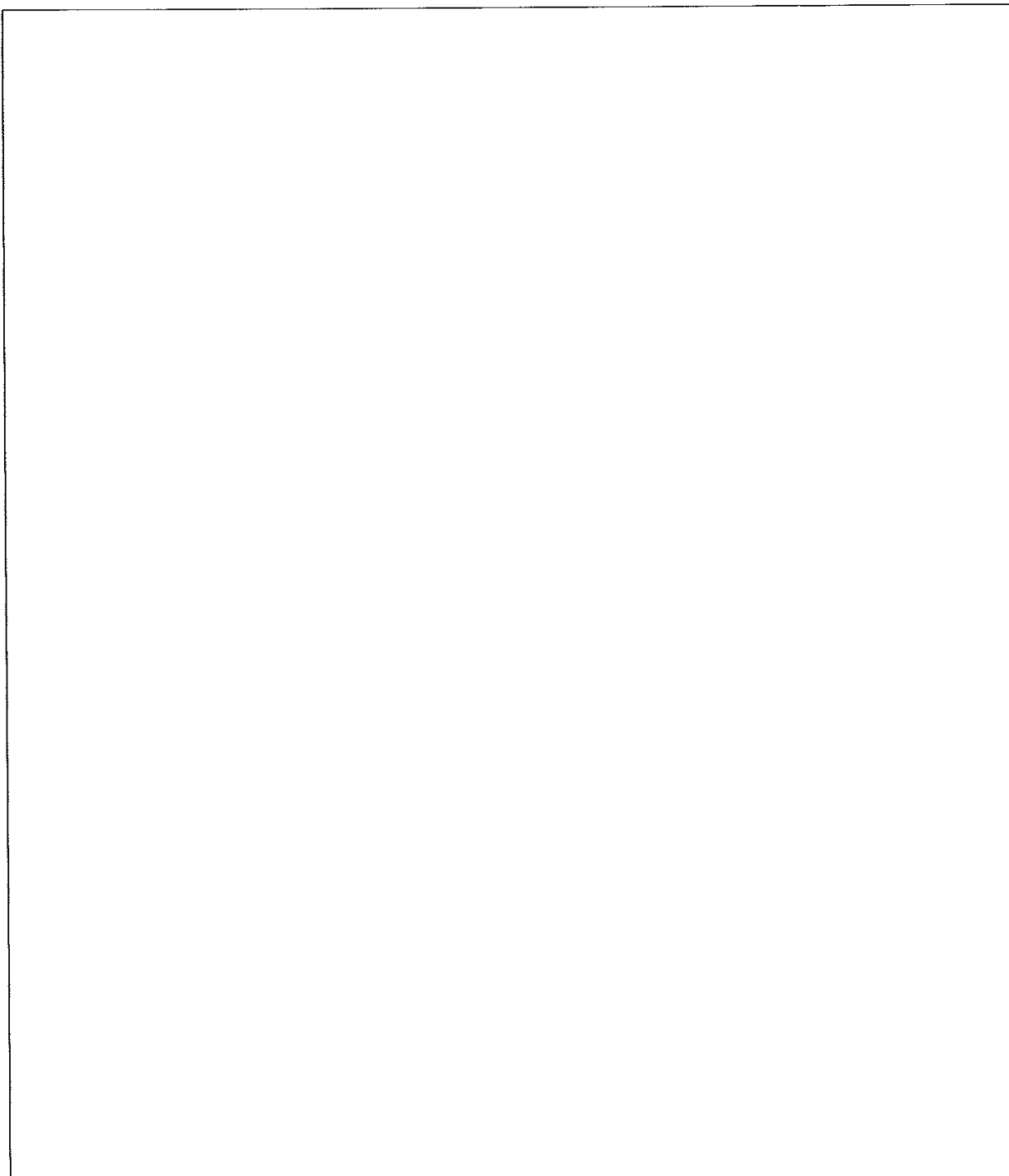
*"As a Consultant Paediatric Neurologist I would rarely be involved in the care of a child with Hyponatraemia. This condition is usually managed by the Paediatric Nephrologist or General Paediatrician. I was involved in the case of Claire Roberts who was admitted to The Royal Belfast Hospital for Sick Children [on] 21<sup>st</sup> October 1996 and died on 23<sup>rd</sup> October 1996. Claire was found to have died of cerebral [oedema] due to meningo-encephalitis and Hyponatraemia due to excess ADH production and status epilepticus. I can recall no other children coming to harm from Hyponatraemia over the past 15 years."*

**(a) State whether you are aware of the deaths of Lucy Crawford and Raychel Ferguson, who were certified dead in PICU at The Royal Belfast Hospital for Sick Children (RBHSC) on 14<sup>th</sup> April 2000 and 21<sup>st</sup> June 2001 respectively.**

I am aware of the deaths of Lucy Crawford and Raychel Ferguson.

**(b) If so: state (i) when you became aware of those deaths and in what circumstances; (ii) when you became aware that Hyponatraemia was involved in their deaths and in what circumstances.**

I left Belfast in 1997. I cannot recall precisely but believe I learned of the deaths of Lucy Crawford and Raychel Ferguson either through media coverage or through the inquest into the death of Claire Roberts.



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

**Signed:**

*D. M. Webb*

**Dated:** 23. 8. 11

# The Inquiry into Hyponatraemia-related Deaths

Chairman: Mr John O'Hara QC

Ms Wendy Beggs  
Directorate of Legal Services  
2 Franklin Street  
BELFAST  
BT2 8DQ

Your Ref: NSCB04/1  
NSCW50/1  
NSCS071/1

Our Ref: CM-0017-11

Date: 8<sup>th</sup> September 2011

Dear Ms Beggs,

**Re Your Client: Dr Webb**

I refer to Dr Webb's statement to the Inquiry dated 12 April 2011. There appears to be a typographical error in same as the excerpt quoted from Dr Webb's police statement at question 2 is incomplete, it reads:

"On 27th November 1995 I was contacted by the Nephrology Service to see a child named Adam Strain. I attended Adam at 7.30pm on that date. Adam was a four year old boy with bilateral reflux nephropathy and renal dysplasia who had received a cadveric renal transplant earlier that had been a completely unexpected finding as [sic] his cardio-respiratory monitoring had been normal throughout the operation".

The excerpt should properly read:

"On 27th November 1995 I was contacted by the Nephrology Service to see a child named Adam Strain. I attended Adam at 7.30pm on that date. Adam was a four year old boy with bilateral reflux nephropathy and renal dysplasia who had received a cadveric renal transplant earlier that day. He was noted peri-operatively to have fixed dilated pupils at approximately 12 noon. This has been a completely unexpected finding at [sic] his cardio-respiratory monitoring had been normal throughout the operation".

Please confirm that the omission from the quotation is a typographical error and that Dr Webb's answers to questions 2(a), 2(b) and 2(c) remain unchanged.

Yours sincerely



Caroline Martin  
Solicitor to the Inquiry

**Secretary:** Bernie Conlon

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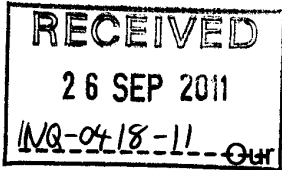


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Your Ref: AD- CM-0017-11  
Our Ref: HYP B04/1

Date:  
26<sup>th</sup> September 2011

Ms Caroline Martin  
Solicitor to the Inquiry  
Arthur House  
41 Arthur Street  
Belfast  
BT1 4GB

Dear Madam,

### RE: INQUIRY INTO HYPONATRAEMIA RELATED DEATHS

I refer to your letter of 8<sup>th</sup> September 2011 as regards Dr Webb's statement.

I am instructed that Dr Webb has confirmed that the omission referred to in your letter would not change his answers to questions 2a, c, and c in his statement of 12<sup>th</sup> April 2011. Nor would it alter his subsequent statement.

I trust that this clarifies matters.

Yours faithfully

Joanna Bolton  
Solicitor Consultant

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*Providing Support to Health and Social Care*

