STATEMENT OF WITNESS

STATEMENT OF: DOCTOR ALISON ARMOUR

Name *Rank*

AGE OF WITNESS *(If over 18 enter "over 18"):* OVER 18

To be completed when the statement has been written

I declare that this statement consisting of 2 pages, each signed by me is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence at a preliminary enquiry or at the trial of any person, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Dated this 12 day of APRIL 2006

William R Cross

SIGNATURE OF MEMBER *by whom statement was recorded or received*

WILLIAM R CROSS, D/SGT

PRINT NAME IN CAPS

Alison Armour

SIGNATURE OF WITNESS

I am a Consultant Pathologist at the Royal Preston Hospital, with the following qualifications: MB, BCh, MRCPath, DMJ (Path). In November 1995 I was a registered medical practitioner and pathologist approved by the Northern Ireland Office. On the instructions of HM Coroner for Greater Belfast, Mr J L Leckey, LL.M. on 29 November 1995 I made a post-mortem examination on a body identified to me as that of Adam Strain. I produced a report for HM Coroner and a copy of that report has been shown to me by Detective Sergeant Cross marked WRC3. At the Inquest into the death of Adam Strain on 18 June 1996 I replied to questions from the Coroner as follows: this was massive cerebral oedema and I have never came across anything of a similar degree. The cause of it in this case is extremely rare and never encountered by me previously. On a worldwide basis it would be equally rare. In response to Mr Brangham I said: It was a complex case because of Adam's underlying condition, his previous surgery and the technical difficulty of the operation. He experienced substantial blood loss during the operation and that

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made his haemodynamics very difficult to manage. Adam was not a healthy child – he was a sick little boy. 139 mml/l is within the normal range. So far as no significant oedema of any other organ my understanding is that fluid is absorbed into the brain in preference to any other organ. I distinguish between hyponatraemia and dilutional hyponatraemia. The latter is due to fluids given. Children are more susceptible to cerebral oedema than adults and so far as dilutional hyponatraemia females are more susceptible than males. The paper I referred to refers to healthy children but it is still a good reference to this condition. There was impaired cerebral perfusion as there was a suture on the left side and a catheter tip on the right. 1200 mls blood loss during the operation. I do not know what problems this would have caused for the anaesthetist. In response to Miss Higgins I said: A critical point was the fluids used by the anaesthetist to replace blood loss. At the autopsy I had 10 sets of notes relating to Adam and the clinicians' statements. The suture impaired the blood flow to the brain and the catheter tip on the right may have had a role to play. The suture had been there for some time. Dr Taylor advised me at the autopsy of the calculation he made to replace blood loss. Haematocrit – packed cell volume. In this case the reading could indicate he was bleeding or in a dilutional state. I have provided a medical article to D/Sergeant Cross which was published in the Journal of Clinical Pathology and he has marked it RJM10. D/Sergeant Cross has shown me a record numbered 227 and 228. I agree that the comments made referring to me are accurate. D/Sergeant Cross has shown me a letter numbered 059-036-072. I would state that my opinion was honestly held at the time and remains so now, based on the facts provided to me. I have not misrepresented any fact nor have I behaved in a prejudicial manner.

[redacted]

8/5/96

Dear Dr Murnaghan,

Thank you for forwarding the postmortem findings regarding Adam Strain. As you know I do not wish to cause any conflict or disagreement which would cause further distress or suffering to persons involved in this case. However there are several fundamental problems with the report which I must address.

I agree that death was due to cerebral oedema and that hyponatraemia was present but disagree with the causes.

Hyponatraemia
Towards the end of Commentary it states "the hyponatraemia in this case was the cause of cerebral oedema and most of the ...fluids given .....were.....sodium chloride 38 mmol/l." The facts are that 40% of the fluids contained this amount of sodium (1500 ml) 0.18 NaCl/4% Glucose compared to the remaining 60% of total fluids given which contained 130-150 mmol/l of sodium (HPPF, Blood, Hartmanns).
The PM statement therefore clearly misrepresents the facts in a prejudicial manner.

Impaired cerebral perfusion
There is no evidence that "Impaired cerebral perfusion" occurred in this case.
Cerebral Perfusion is defined as Mean Arterial pressure (MAP) minus Intracranial pressure (ICP). Intracranial pressure was not monitored in this case, and is never monitored except in head injuries etc. as it involves an invasive monitor in the brain. Since MAP was maintained throughout the procedure it is unlikely that there was cerebral hypoperfusion. Perhaps a better logical explanation would be "Impaired Cerebral Drainage". However this is against known research especially in this case where a recent article suggests that complete jugular ligation does not cause an increase in ICP.

This is contradicted by the description of the postmortem findings. In the PM under **Examination of the Neck** it states "There was no evidence of congestion or obstruction of the major blood vessels....". This contradicts the conclusion that cerebral perfusion (or cerebral drainage) could have been impaired.

There is no premorbid nor postmortem evidence that excessive volumes of fluid were administered which produced a dilutional hyponatraemia. I still do not know what caused his death but I believe it is unacceptable to speculate on the cause of Adam's death without direct postmortem evidence and by misrepresenting the quantities and type of fluids given.

I would hope that reasons are not being generated or misrepresented to suit the diagnosis.

Yours sincerely,
Dr Robert Taylor

10.06.96

059-036-072

AS - PSNI