

RESTRICTED (when complete)

Statement of Witness

Statement of: PAUL KENNEDY

Age of Witness: Over 18 (if over 18 insert 'over 18')

I declare that this statement consisting of _____ page/s, 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.

Signature of Witness:  **Date:** 12-1-2011

Service/Staff # if police/staff

Signature witnessed by: _____
(Appropriate Adult)

Signature of Member:  **Date:** 12.01.2011

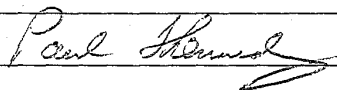
DCI-18726.

by whom statement was
recorded or received

Service/Staff # if police/staff

I am an Assistant Investigator with the Police Service of Northern Ireland attached to the Major Investigation Team 5 based at Maydown Police Complex, Londonderry. On Friday, 7 January 2011 I checked a typed transcript of the tape recorded interview of Doctor Robert Henry Taylor who was interviewed at Grosvenor Road Police Station on 17 October 2006. I found the transcript to be an accurate account of the interview and marked the transcript as follows, typed transcript Tape Number T0175882A dated 17 October 2006 between 1026 hours and 1107 hours I marked PK1. On Monday, 10 January 2011 I checked typed transcript number T0176410A dated 17 October 2006 between 1108 hours and 1141 hours. I found the transcript to be a correct accurate account of the interviews and marked it PK2. On Monday, 10 January 2011 I checked typed transcript number T0176411A dated 17 October 2006 between 1201 hours and 1243 hours. I found the transcript to be a correct accurate account of the interview and marked it PK3. I checked typed transcript number T017614A dated 17 October 2006 between 1244 hours and 1327 hours. I found the transcript to be a correct accurate account of the interview and marked it PK4. I checked typed transcript T0176147A dated 17 October 2006 between 1508 hours and 1551 hours. I found the transcript to be a correct accurate account of the interview and marked it PK5. On Tuesday, 11 January 2011 I checked typed transcript number T0176148A dated 17 October 2006 between 1552 hours and 1634 hours. I found the transcript to be a correct accurate account of the interview and marked it PK6. I checked typed transcript number

Signature of witness:




Signature witnessed by:
(Appropriate Adult)

RESTRICTED (when complete)

Continuation of Statement of: PAUL KENNEDY

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T0176149A dated 17 October 2006 between 1641 hours and 1703 hours. I found this transcript to be a correct accurate account of the interview and marked it PK7.

Signature of witness:	
Signature witnessed by: (Appropriate Adult)	

38/36 (2009)



Right Doctor there's a few things I have to say before we start just to set the scene for the purpose of the typists really who transcribe the tapes. I'm going to start by saying that today's date is the 17th of October 2006 and the time on the clock on the wall is 1026 and we're in an interview room in Grosvenor Road Police Station in Belfast and there's 4 people in the room and my name's Billy Cross I'm a Detective Sergeant in MIT in Gough and I've another officer here and her name is.

Denise Graham a Detective Constable from MIT in Gough.

And Doctor could you give us your full name please.

TAYLOR

Doctor Robert Henry Taylor.

Thank you and we've a solicitor present.

SOLICITOR

Gary Daly.

Right Doctor I know Denise has already explained to you before the tapes started that the purpose of the interview today that you're here entirely as a voluntary attendee and she's already told you that you're not under arrest and you're free to go and you do have legal advice with you and you've had an opportunity to consult with Mr Daly before the interview. If at any stage Doctor you want a break to further consult with Mr Daly just say so, if you want a break for any other reason for that matter say so at any time and the purpose today is to talk to you about the circumstances surrounding the death of Adam Strain in 1995 and in filling in the declaration of voluntary attendance Denise will have mentioned to you that.

I think I probably forgot to mention the (inaudible) -

- Right specifically because we're investigating crimes not bad practice or whatever if the offence that we're investigating is manslaughter by gross negligence. Now Doctor before I ask any questions in relation to that I have to caution you and tell you that you do not have to say anything but I must caution you that if you do not mention when questioned something which you later rely on in court it may harm your defence. If you do say anything it may be given in evidence. Now what that means is Denise and I will be asking questions and you are not obliged to answer anything, you're entitled to say absolutely nothing. We will encourage you to answer



mind you but you don't have to. If however this matter went to court, if it went to court and you mention in that court something which you could have mentioned here today but didn't a court may take a certain view as to how much reliance to place on that and also if you do say anything now then that would be told to the court as part of the evidence in the case. Are you happy you understand that Doctor so when we proceed with the questions you're not obliged to say anything and if I can just explain the police position. We're very aware that this is a very historic matter, it's 10 years old there's a long history to this investigation, you've a public enquiry into the concerns that have been around but one way or another concerns were raised about the deaths of a number of children in the province and we've already investigated one, this is the second one and there are another couple of children that we're interested in. So we're here today to talk to you about that now we have talked to quite a number of people 30, 40 people maybe in relation to the death of Adam and this is your opportunity to give your account but because you were there at the relevant time and there were concerns that the fluids which were your responsibility may have been responsible, that's why you're here today and you've been cautioned first and told the rights that you have in law, are you happy enough Doctor.

TAYLOR

Yes.

Doctor could I ask you to give us an account in your own words and your own time of your responsibilities and the steps that you took in relation to the operation on Adam in November 1995.

SOLICITOR

Can I just indicate that Mr Taylor wishes to read from a statement that he prepared for the purposes of the enquiry.

No problem that's grand. Just go ahead Doctor yes.

Yeah.

TAYLOR

Okay the name of child Adam Strain, my name Robert Taylor, title Consultant Paediatric Anaesthetist, present position and institution Consultant Paediatric Anaesthetist, Royal Belfast Hospital For Sick Children. Membership of advisory panels and committees 1997 to 98 Provision of Paediatric Surgical Services Working Party, 30th of September 1997 Regional Working Group



on Care of the Acutely Ill Child, Sub Group and Paediatric Intensive Care, 1997 to 2005 Local Advisory Paramedic Steering Committee, 1997 to 98 Eastern Health and Social Services Board Working Party on Meningococcal Disease, 1999 to 2005 Sick Child Liaison Group, September 2001 to January 2002 Hyponatremia Working Party, 2002 Paediatric Long Term Ventilation Working Party, June 2003 to February 2004 Neo Natal/Paediatric Inter Hospital Transport Working Party, 2003 to 2005 Chairman, Clinical Audit Committee, Royal Group of Hospitals Trust, 2002 to 2005 Member Clinical Ethics Committee, Royal Group of Hospitals Trust. Previous statements, depositions and reports 011-005-035, 036 statement to Coroner dated 30th of the 11th 1995 (same as 059-067-155/156), 011-017-108-121 deposition at inquest dated 21st 06 1996, 059-004-007 note to Mr Brannigan, 059-009-028 note to Mr Brannigan dated 07.06.1996, 059-036-071, 072 letter to Doctor Murnaghan dated 08.05.1996, 059-053-108 letter to Doctor George Murnaghan 02.02.96, 059-012-031, 032 fax to Mr Brannigan 07.06.96. Reference 01-005-035 dated 30th of the 11th 1995 statement 011-017-108 21 06 96, deposition at inquest, at the inquest on Adam Strain, transcript of all evidence at the inquest on Adam Strain. Next page I was on call for RVHSC Friday, Saturday and Sunday which was a typical busy weekend. Prof Moira Savagh phoned me on Saturday night, 26th November 1995 to inform me that a renal transplant was scheduled on Adam Strain for early next morning.

Doctor if we just talk about that, you read there has phoned me on Saturday night that's Sunday on my copy.

TAYLOR Sorry phoned me on Sunday night.

Sunday yeah that's okay.

TAYLOR I beg your pardon.

Right.

TAYLOR Sunday night 26th of November.

Yeah.

TAYLOR I was informed that Adam retained his native kidneys, I suggested coming in to assess him but we concluded that relevant information could be given by phone and that I would be required to start the case at 0600 hours next



morning (058-003-005). This meant leaving home at 0515 hours on the 27th November 1995 to prepare the patient, drugs and perform my pre-anaesthetic equipment checks. During this phone call pre-transplant information was given and my many questions were answered (058-002-002). However I knew I would have to make a more detailed examination of the medical records and Adam before embarking on the transplant anaesthetic. It was agreed that this would be best done early the following morning. I asked for 4 units of blood and to check full blood count/U and E, Urea and Electrolytes etcetera, fasting instructions and a request to erect IV fluids at the usual maintenance rate. The next morning on 27th November 1995 I was told by a Ward Nurse that blood tests and IV fluids were not done because of poor venous access and repeated attempts had caused Adam to be upset. At about 0545 hours I met with Adam and his mother and reviewed all available information pre-operatively. I now discussed the effect of having no post dialysis urea and electrolyte, U and E results and the impact of no intravenous fluids for the fasting period of the previous 2 hours since his night feeds were stopped with Doctor Montague. I reviewed his fluid balance sheet (057-010-013) and noted that he was to have received 200 ml per hour of all fluids (I think this was by artificial feeding tube). In actual fact Adam had received in excess of this 200 mls per hour which suggested to Doctor Montague and myself that he was capable of tolerating rates of fluid in excess of the normal amounts because of his underlying high output renal failure. This meant that we had to make several unusual fluid calculations see below. I also checked his most recent blood test results from 2300 on the 26th of November which indicated a sodium value of 139 millimole per litre and a haemoglobin of 10.5 (058-035-144). Although I noted that he did have a sodium of 124 millimole per litre on one occasion without apparent ill effects, I was informed that it was usual for Adam's electrolytes to remain stable following dialysis for 24 hours as demonstrated in a summary of his bio-chemistry results in 1995 (058-041-187-224). It was clear that Adam produced very dilute urine with a sodium content of 29 to 52 millimole per litre as seen in a summary of his urine bio-chemistry results from 28th November 1991 to 5th December 1991 (051-018) sorry (050-018-055) and again confirmed in a test done on the 14th December 1991 (050-018-051) which meant that he was unable to cope with a high sodium load. I then sought information on Adam's previous anaesthetic management he had undergone a shorter procedure on



18th October 1995. I examined the anaesthetic record (058-025-069 to 074). This indicated a brief summary of significant medical history and of note he was distressed on arrival in theatre. The anaesthetist (Doctor Loan) recorded that "much better co-operation when IV induction offered". Otherwise there were no difficulties noted with his anaesthetic management. I noted the size of endotracheo tube (14.5 millimetre) and that a butterfly needle was used to induce anaesthesia in the left antecubital (inaudible). Although there were no fluid calculations performed on this I noted that 300 mls of "1/5 end saline/4%" were given over approximately one hour. No other fluids were administered and no blood loss was recorded. Adam appeared to have recovered well and uneventfully from this surgery. His heart rate and blood pressure appeared to follow a "standard course". I checked recent medical history, drug history, whether he was allergic or sensitive to any medications and his most recent evaluation of fluid and electrolyte status. I therefore had to make a decision about further delaying surgery to gain IV access and blood tests against prolonging the "(inaudible) time" and the donor kidney. A decision to delay surgery to the morning was to ensure that the operating room staff were not too exhausted that new day staff would be coming on duty, that a paediatric intensive care bed would be available also that an emergency theatre would not be "blocked" by a semi-elective case. In our hospital only one operating theatre is available at nights and weekends. There were therefore many complex inter-dependent factors that made it difficult to determine when the optimum conditions existed for Adam's transplant to take place. On close discussion with the nursing staff in paediatric intensive, PICU theatres, nephrology ward and Mr Keane a "team" decision was made to go ahead with the kidney transplant on Adam at about 0700 hours on 27th November 1995. From about 0630 or 0640 I spent some time with my experienced senior registrar Doctor Terence Montague calculating the dose of anaesthetic drugs and fluids. We double checked the syringes and fluid bags with each other and agreed on their accuracy. The drug calculations were made on standard textbook dosing schedules. The need to replace fluid deficit is calculated on the known urine and insensible losses and it was agreed that there was an urgency to replace this deficit so that Adam did not become dehydrated or suffer from low blood circulation prior to transplant. We knew that Adam was unable to concentrate urine by the natural hormonal influences antidiuretic hormone (ADH) and renal



inangiotensin therefore we needed to provide at least 200 mls per hour of similar fluid to his renal losses. The concentration of sodium in his urine was low, 29 to 52 millimoles per litre (050-018-055) and replacement for this was most closely represented by the 0.18 nacl/4% glucose fluid (sodium equals 30 millimole per litre). This then required 400 mls to replace this 2 hour fasting deficit and a further 200 mls for his first hour of surgery or 600 mls in the first hour. There was also the need to replace any ongoing losses of blood initially with crystalloid, we agreed that we would keep a close watch on blood loss and replace such losses with a ratio of 3 mls crystalloid to 1 ml blood loss. This was a well, this was a well established ratio used by anaesthetists world wide at that time. We also recognised that there would be the need to replace the type of fluid lost by the body by that type of fluid which it most closely resembled ie replace water with water, salt with salt and blood with blood. In summary pre-operative fluid calculations were (1) Replace fluid deficit (mainly dilute urine) 2 hours at 200 mls equals 400 mls total. (2) Provide fluid maintenance requirements each hour in theatre ie 200 mls equals 200 mls per hour. (3) Replace any blood loss by monitoring swabs and suction and replace blood with a crystalloid in a ratio of 3 mls crystalloid to 1 ml blood loss this would also include blood products when indicated in the ratio of 1 ml for each ml of loss. (4) Further fluid management would depend on BP, heart rate, HR, CVP and organ perfusion. (5) The need to ensure that Adam's blood volume was certainly not deficient but with careful monitoring was actually increased in order to adequately perfuse the new adult sized donor kidney. In a long case lasting over 4 hours it is not possible to provide patient safety with a single anaesthetist I only agreed to provide general anaesthesia for Adam if an experienced senior registrar Dr T Montague, experienced theatre nursing staff and with a ready access to experienced surgeons and nephrologists who were in theatre dress and present beside me in theatre for large parts of the procedure. Therefore my actions are as a team leader, as a team member and a team leader (for anaesthesia) Dr T Montague and or myself were present with Adam in theatre at all times. The degree of vigilance and personal comfort cannot be provided by a single individual. I cannot remember the exact reasons why Adam's surgery did not start at 0600 as originally planned I can only speculate that it took a considerable amount of time to work out an agreed management plan and review previous notes despite my very early attendance at the



hospital that morning. At 0700 I worked closely with Dr T Montague and the anaesthetic nurse to induce anaesthesia and provide all the technical skills necessary to secure the airway, breathing, access to intravenous lines, arterial access, central venous access and epidural catheter placement. I am dependent on my statement (011-005-035, 036) when I report that Adam was anaesthetised "without undue difficulty". We continued to record the anaesthetic drugs and procedures on the appropriate chart (058-003-005). The IV fluids were reassessed several times during the first hour. The total fluid now needed during the first hour was 400 ml (deficit) plus 200 ml current hour's maintenance giving a total of 600 mls therefore the first 500 mls (being one bag) of 0.18 nacl/4% glucose was increased to be completed in the first half hour and a second bag (500 mls) to make up that volume and type of fluid lost by the kidneys ie approximately 600 to 700 mls given in the first hour. During the second hour ie 0800 to 0900 of surgery the blood loss from Adam's swab count (058-007-020, 021) became the crucial factor in relation to his fluid management. The computerised record (058-008-023) indicated that the central venous pressure (CVP) was being recorded from 0800. This means that the anaesthetic tasks were complete and the operation could begin from that time. No time line was present on the swab count form (058-007-020, 021) nor was there a time line of blood volume lost from the suction or spilled onto towels. We noted that initially swabs were light ie 6 to 10 grammes (net weight recorded) (inaudible) grammes equals mls but this increased with several heavier swabs including one of 67 grammes (equivalent to 67 mls). It was becoming clear that about 200 mls of blood was lost in the swabs in the first hour plus a similar amount in the suction bottle and on the towels about 600 mls in total. We were concerned about this loss and together with others present decided to commence a second fluid infusion of human plasma protein fraction (HPPF) which had a similar electrolyte profile to the type and quality of fluid being lost. HPPF contains 130 to 150 millimole per litre of sodium as well as albumin which is retained in the blood circulation and is used as a blood volume replacement. This HPPF 400 mls was administered over the second hour of surgery, towards the end of the second hour of surgery we had therefore given 1,000 mls of 0.18 nacl-4% glucose and 400 mls HPPF giving a total input of 1400 mls and the loss exceeding 500 mls of blood and urine lost by Adam's native kidneys. We were reasonably satisfied towards the end of the second hour



of surgery that the renal losses were now adequately replaced and therefore erected a third bag (500 mls) of 0.18 nacl/4% glucose to be given at a much reduced rate over the following 2 hours 20 minutes to maintain the loss of dilute urine by Adam's native kidneys. This infusion of glucose containing fluid was also needed to provide sufficient sugar for Adam's metabolic requirements. It is well recognised that epidural anaesthesia reduces the stress response to surgery, this can limit the increased blood sugar normally seen in patients undergoing general anaesthesia and surgery. All aspects of the anaesthetic were reassessed throughout the second hour and in respect of fluids another type of fluid (inaudible) solution (sodium content 130 millimole per litre) was commenced near the end of the second hour of surgery. This is a much more usual type of fluid given to patients under anaesthetic for maintenance of fluid in electrolyte requirements does not, but does not provide glucose needs. (Inaudible) solution was given over the remaining 2 hours 15 minutes of surgery, this fluid was provided to preload the new kidneys so that there would be sufficient fluid for its function. A review of his BP and HR at the end of the second hour of surgery indicated a stable BP 90 to 95 mmhg systolic and a HR initially of 140 settling to 110 associated with the initial dose of atropine wearing off. Computerised record (058-008-023) indicated that Adam's central venous pressure CVP was initially 17 mmhg at 0800 hours and had risen to 20 mmhg at 0900 hours. A modest rise of 3 mmhg after 2 hours of surgery. Although the initial CVP of 17 was higher than normally expected (8 to 12 normal range) we concluded that the tip had curved upward into the neck vessels as confirmed by compression. Therefore as indicated in my statement (011-005-035, 036) we accepted the 17 mmhg as a marker to look for a relative change rather than an absolute level. It is usual practice to increase the CVP by 5 to 10 centimetres above the initial level to ensure adequate blood flow to the new or donor kidney. We concluded that the CVP was a value as a relative measure of venous pressure rather than an absolute measure when continuously reassessing Adam's fluid replacement we used all the information available from the anaesthetic monitors as well as visualising the impact on the surgical field. By the third hour 0900 to 1000 hours (058-003-005) the blood loss was continuing and Adam's blood pressure CVP and general status indicated that we may still require further fluid to be administered. We were moving to a stage when more blood products were now appropriate. During the third hour 0900 to 1000 hours the



blood loss continued in all 3 areas, swabs, suction and towels. A blood gas analysis was taken at 0932 hours which confirmed good gas exchange and acid basis balance, an estimated haemoglobin of 6.1 and a sodium of 123 millimole per litre (058-003-003). This result led to immediate reappraisal of the blood loss and a unit of packed red blood cells was given over the following hour to replace the measured blood loss. This blood test suggested that the fluids administered so far had maintained the blood volume necessary to tolerate the imminent connection of the donor kidney. The saline glucose infusion was further reduced following this blood test to stop any further reduction in the (inaudible) sodium and only fluids containing sodium at 130 millimole per litre or greater were administered in addition. We were aware that Adam had sodium levels as low as this previously without any ill effects (058-041-187 to 224). The new kidney was in place towards the end of the third hour of surgery, this can be interpreted from the anaesthetic record (058-003-005) as being the time when (inaudible) and (inaudible) were given under the direction of Doctor O'Connor. This was another opportunity for the team to review the fluid management, blood loss and general status of the new kidney. In that review it was clear that the appropriate amount of blood was being delivered, ie 1100 mls of 0.18 nacl/4% glucose had been given to replace the amount lost by Adam's native kidneys and provide maintenance sugar requirements 5 hours at 200 ml per hour equals 1,000 mls, 800 mls of HPPF and 250 mls of blood had been given to replace that lost in swabs, suction and towels and to help restore the low haemoglobin. (Inaudible) solution was commenced to maintain the CVP and provide the new kidney with sufficient preload to ensure its function. The sodium and electrolyte content of this fluid is physiological and therefore appropriate for the function of the donor kidney. The fluids were again reassessed during the fourth hour of surgery, they indicate, they included 0.18 nacl/4% glucose at 200 ml per hour for renal losses, the HPPF and packed red blood cells for replacement of blood loss and (inaudible) solution at 200 mls per hour to support preload for the new donor kidney. The estimated losses from Adam's circulations were noted in the swab count record (058-007-021). (1) Swabs weighed 400 11 mls. (2) Suction bottle 500 mls. (3) Towels "heavily soaked" 500 ml. My anaesthetic record finishes at 1100 indicating that the surgery was now completed however there was a further 30 to 40 minutes when Adam was being prepared for transfer to PICU. The computerised record clearly



shows that HR and BP monitoring continued until after 1130 (058-008-023) plus the total anaesthetic time was 4 hours 30 minutes. It was therefore a terrible shock to me and all those present when Adam did not wake up when his anaesthetic was switched off. Throughout the kidney transplant there had been no episodes of instability in his breathing or circulation or a neurological state. In fact when his anaesthetic record was reviewed immediately after surgery it appeared very stable with no unexplained episode of low heart rate or blood pressure or oxygen levels. I printed off a computerised record of his actual readings of our actual recordings to re-examine in greater details any possible adverse episodes which may have been overlooked (058-008-023). I also re-examined his losses from the surgery and took account of the measurements taken (swabs and suction) as well as an estimate of that lost in the towels and on the floor. In particular there was no sign of inappropriate or excessive fluids had been given for Adam's complex surgery and pre-existing medical problems. The blood sugar test performed at the end of surgery was 4 millimoles per litre this is a low normal level. If I had not provided the same quantity of glucose as I had done then there would have been a serious risk of Adam developing hypoglycaemia to the assist, to assist the enquiry I have summarised the total fluids given to Adam (058-003-005) with reasons. (1) 1500 mls of 0.18 nacl-4% glucose had been given to replace the amount lost by Adam's native kidneys and provide basic sugar needs (6½ hours @ 200 ml equals 1300 mls). (2) 1,000 mls of HPPF and 500 mls of blood had been given to replace that lost in swabs, suction and towels and to help restore the low haemoglobin (estimated losses 1400 11 mls). (3) 500 mls of (inaudible) solution to maintain CVP and provide the new kidney with sufficient preload to ensure its function. From my previous experience of anaesthesia for renal transplantation there has always been the option to institute renal dialysis after surgery if there is evidence of fluid overload. This gives anaesthetists and nephrologists an opportunity to give generous intravenous fluids provided careful and continuous monitoring is provided to ensure the function of the donor kidney. In most of the cases I've been involved with there has been evidence of pulmonary oedema following renal transplants. Often the patient needs oxygen therapy or even mechanical ventilation to manage this complication therefore we were administering fluids to Adam with the express purpose of increasing his blood volume to ensure that the donor kidney (with a long (inaudible) time) would have sufficient



preload and be given the best possible chance of working. All our calculations confirmed that this was the case. At 1140 I transferred Adam to the Paediatric Intensive Care Unit for further evaluation. A short time later I accompanied Doctor Savage to speak to Adam's mother. We passed on our concerns on why Adam hadn't woken up at the end of surgery unfortunately Adam never regained consciousness following the transplant and was declared dead on the 28th November 1995. I worked closely with other medical staff to determine the cause of his death so that his mother could be given as much information as possible. It was also important to investigate the cause of his death so that other patients could benefit from knowledge learned by Adam's tragic death during renal transplantation. (1) Arterial blood gas 0932 (058-003-003) this test was done primarily to confirm adequate respiratory function. It also provided an estimate, a estimate for the haemoglobin since there was a continued blood loss and active bleeding. It also provided an estimate of sodium levels (Na 123 millimole per litre). (2) Fluid administration as described in question 2 Part 1, this was a continuous assessment of fluid deficits, losses and projected bleeds to adequately profuse a donated adult kidney. Fluids were changed in response to ongoing blood loss and metabolic requirements. This was based on pre-operative fluid plan (inaudible).

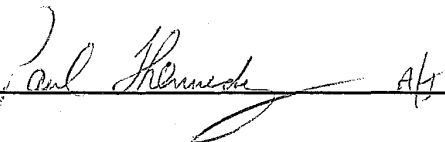
Sorry Doctor can I just stop you there a wee moment the tape's about to buzz and run out on us so we'll just change the tapes okay.

TAYLOR

Okay.

The time is 1107 hours.

**CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0175882A
INTERVIEW OF ROBERT HENRY TAYLOR ON
17 OCTOBER 2006 BETWEEN 1026 HOURS AND
1107 HOURS**

A handwritten signature, likely of Paul Kennedy, is written over a horizontal line. The signature is in cursive and includes the initials 'AK' at the end.

PK 2



(Echo on tape.) We're continuing the interview it's 1108 the same 4 people are present in the room and could I ask you Doctor just to confirm that no questions were asked while the tapes were all turned off there.

TAYLOR

That's correct.

Right if I could remind you Doctor to continue the caution still applies thank you if you just carry on.

TAYLOR

Fluid plan, the (inaudible) deficit in the first hour and provide ongoing renal losses associated with Adam's (inaudible) kidney that the type of fluid low in sodium content (0.18 nacl-4% glucose). This fluid saline (inaudible) mixture is recommended for dehydration in the British National (inaudible) (BNF) number 29 March 1995 (BNF29, copy enclosed). There is no evidence on the problems associated with (inaudible) this mixture of fluids until March 2003 reference BNF45 copy enclosed. The remainder of the fluid plan was to replace surgical losses as measured by swab weight, suction volume and estimated (inaudible) in conjunction with the patient's overall (inaudible) with invasive monitoring of his vital signs. I worked with all those involved in the days and weeks following Adam's death to investigate all the possibilities (inaudible) tragic event. This included multiple reviews of all aspects of the anaesthetic and pre-operative management, it also involved a detailed literature search by me for publications relative to the case. We knew that a complete understanding of the reasons for his death would be essential before asking others to change their medical practice. During the coroner's inquest clear recommendations were drafted on the 19th of June 1996 I worked in co-operation with Doctors (inaudible) to develop draft recommendations for paediatric surgery (060-018-026). This was shared (inaudible) with my paediatric anaesthetic colleagues Doctors (inaudible) (060-014-025-redacted). As a consultant in the Royal Belfast Hospital for Sick Children with my colleague I have had the opportunity since 1995 to teach and train (inaudible) and paediatric training doctors in all aspects of fluid management in children undergoing major surgery. I have maintained my professional knowledge of all aspects of (inaudible) by reading widely on the subject of fluid management and passed on such knowledge in formal and informal teaching sessions. I became an active instructor in the (inaudible) Paediatric Life Support (inaudible) course in 1997, on this course I taught all the many aspects of life



support. In relation to the enquiry I have taught many doctors and nurses about the type and volume of fluid to (inaudible) in children with a serious life threatening condition eg shock, dehydration, diabetes, trauma etcetera. This teaching follows national and international guidelines. In 1999 I became the (inaudible) course director and 2 Belfast courses annually and (inaudible) course in Dublin in 2001 and (inaudible). I have also taught on (inaudible) Manchester and various (inaudible). Overall I have assisted in the instruction of over 400 doctors and nurses mainly in Northern Ireland. I (inaudible) that paediatric, anaesthetic and A&E Accident and Emergency consultant who met 2 to 3 times per year at Antrim Area Hospital (inaudible) copy enclosed. This group called itself the (inaudible) Group (inaudible). It's main purpose was to improve the quality of care of critically ill children who transfer to Paediatric ICU mainly (inaudible) patients. (Inaudible) my clinical director Doctor (inaudible) at the RVH and Doctor (inaudible) discussion. One of the outcomes of the (inaudible) was the production of an agreed "meningococcal guideline to be used in all hospitals in Northern Ireland". This guideline (inaudible) of children where meningococcal occurs. At another meeting of the (inaudible) on 25th of June 2001 the issue of dilutional hyponatremia was presented by me in relation to children receiving intravenous fluids on the paediatric (inaudible) reference (inaudible) copy enclosed. Unfortunately these meetings were poorly attended probably because they were held in the evenings. I have recently reduced (inaudible) with other doctors to (inaudible) in Craigavon Area Hospital. I was a founder member along with Doctor Brendan O'Hare of the Paediatric Anaesthetic (inaudible) Ireland, PACSI in 1991. This is the group of paediatric -

- Sorry Doctor 1997 -

TAYLOR

- sorry 1997, this is a group of paediatric anaesthetists from RVH (inaudible) and Our Lady's Hospital for Sick Children who meet annually. We have a very close academic and social relationship, at our meetings we discuss areas of common interest and invite respected doctors from overseas to help in our education. Doctor (inaudible) was invited to one of our meetings in 2000 to discuss intravenous fluids. I continued to provide leadership in the teaching of fluids and other important matters to other doctors involved in major paediatric surgery in Ireland. From 1991 I met twice a year with other consultants in paediatric intensive care at organised



conferences at the UK Paediatric Intensive Care Society (PICS). At these conferences fluid management of critically ill children was discussed on several occasions. At our meeting (inaudible) in October 1999 a whole session was devoted to the subject of the optimum fluid for such children. Doctor (inaudible) who has published several papers on hyponatremia spoke at this meeting. I had worked for Doctor (inaudible) as a paediatric critical care fellow in the Hospital for Sick Children, Toronto in 1988 to 1989. These PICS meetings also provided an opportunity to discuss paediatric fluid management on an informal manner. In 2002 I was asked to sit on the PICS council as a co-operative member for Ireland. In 2001 I was invited to be a member of the Working Party on prevention of hyponatremia by Doctor Darragh (007-050-099). As a member of this committee I helped to draft guidelines to be used by all hospital departments where children are given intravenous fluids. I was asked to report the death of a child to the medicines control agency using the "yellow card" system (007-048-094 to 096 and reference BSN copy enclosed). (Inaudible) correspondence from the MCA is available on the enquiry website (007-017-034). I provided a teaching aid for this committee in the form of a powerpoint presentation that included an audit of children admitted to PICU with hyponatremia and recent publication (007-051-100 to 111). I have continued to phone and e-mail other doctors and pharmacists in different parts of the world to gain some insight into the use of prohibition of saline glucose fluids (007-041-082). This has led me to conclude that there is no consensus on the optimum type of fluids to use on children for major surgery. There is quite spectrum of opinion on the use of saline glucose mixtures with some individuals who wish to see these fluids restricted eg Doctor Stephen (inaudible), Royal Manchester Childrens Hospital (007-061-130). In 2003 I was invited to edit the fluid chapter for the second edition of the reference book "(inaudible) For Children". There was a deficiency in the text (inaudible) of the risks of hyponatremia, I included the paragraph undilutional hyponatremia that reflected the same old guidance for the "prevention of hyponatremia" which was accepted by the editors reference MSC copy enclosed. I do not believe that individual doctors like me can have any impact on the prescribing of fluids by doctors in the various hospitals in Northern Ireland. The implementation of the guidelines on the prevention of hyponatremia by the Chief Medical Officer in 2002 have made a major impact in NI however it would take a determined effort by a powerful body such as the National



Patient Safety Agency to introduce a change to clinical practice in all UK regions. In my letter to Doctor Murnaghan on 2nd February 1996 (059-053-108) I draw attention to a factual error as reported by Doctor Sumner in his report (059-054-109 to 120). He reports that the human plasma protein fraction, HPPS administered to Adam did not contain sodium (059-054-116 and 119). In actual fact this solution contains 130 to 150 millimoles per litre of sodium similar to that present in blood. It is crucial to the understanding of the type and volume of fluid given to Adam to be absolutely accurate. I have outlined (inaudible) a number of reasons why each type and volume of fluids are given. It was the agreed intention of the transplant team to ensure that water would be given to replace water, salt to replace salt and blood to replace blood and that sufficient sugar to be given to provide Adam with essential metabolic requirements. Also I draw attention to other concerns with Doctor Sumner's report such as the reasons why 0.18 nacl-4% glucose was chosen as a fluid type I have outlined in my correspondence to (inaudible) prior to the inquest (059-004-007, 059-009-028, 059-053-108). Unlike drugs intravenous fluids are not required to undergo rigorous licensing procedures such as evidence of their safety and (inaudible). The product information is supplied by the BNF number 29 as supplied by the BNF number 29 in 1995 lists its lowest specific hazards or contra indications the saline glucose mixtures. Also despite my request in 2001 for the regulatory body, regulating body for intravenous fluids and drugs the medicines control agency, to issue a warning about dilutional hyponatremia (007-029-056) the response was that there should be "no amendments to product information" (007-017-034). In March 2003 a specific (inaudible) is supplied by the BNF number 45 for intravenous saline and glucose mixtures and the issue of ABH (reference BNF copy included).

Thanks very much doctor that's the end of that, of your statement. For the record we'll be calling this WRC99 we have to exhibit here so we're assuming doctor that you've given us that copy but the reality is we already have that cause it's on the web and has been on the web so and the WRC99. Doctor if I could just ask you to before we leave this or move on just to clarify a few specific points if we can go to page 2 as numbered at the bottom under the centre largest paragraph. I was told by a ward nurse see the 6th line down.

TAYLOR

Yes.



Do you recall which nurse.

TAYLOR I can't recall.

Right that's okay and it says IV fluids were not done because of poor venous access now the other records note that a doctor was unable to get that access do you recall which doctor.

TAYLOR No.

Right would I be right in assuming that that was probably a junior doctor as opposed to a consultant or Doctor Savage or anyone.

TAYLOR Yeah it would have been the FHO.

Right and in the same paragraph doctor just a couple of lines down you say I now discussed the effect of having no post dialysis U and E results etcetera. Do you recall with whom you discussed that.

TAYLOR Ahm I can't recall I suspect it was to the surgeons.

Right.

TAYLOR I don't think Doctor Savage and Doctor O'Connor came in until we had already started the anaesthetic.

Okay.

TAYLOR But I can't remember the detail.

Right fair enough and Doctor in the bottom paragraph on the same page the 4th line on one occasion without apparent ill effects I was informed that it was usual for Adam's electrolytes to remain stable. Do you recall who informed you of that.

TAYLOR Again I think it was the nurse.

Okay.

TAYLOR Who was with him that morning.

Right page 3 Doctor on the top paragraph on line 4 you've a quote then much better co-operation when IV induction was offered. This is referring back to a previous



operation.

TAYLOR That's correct.

With Doctor, with Doctor Loan this is to educate me, what actually do you mean by saying when IV induction was offered, what does that mean as opposed to anything else that may have been offered.

TAYLOR That's what Doctor Loan wrote in his -

- Yes -

TAYLOR - charts there's 2 ways -

- right -

TAYLOR - to anaesthetise a child.

Okay.

TAYLOR Maybe 3.

Right.

TAYLOR (Inaudible) conduction.

The gas okay.

TAYLOR Or a needle or sometimes we give it into the muscle.

Right.

TAYLOR Inter muscular but the 2 more usual ways are either the gas or the needle.

And IV induction.

TAYLOR Is the needle.

Is the needle right.

TAYLOR Usually they prefer the mask to the needle.

Right.

TAYLOR He made a note that in this case.

Right.



TAYLOR Don't try the mask.

Okay (inaudible).

TAYLOR Try the needle but that would be unusual for children.

Right.

TAYLOR And for adults.

On page 4 Doctor in sub section 2-1 in a long case lasting over 4 hours.

TAYLOR Hm hm.

You say I only agreed to provide general anaesthesia for Adam with an experienced senior registrar Dr Montague.

TAYLOR Yeah.

Experienced theatre nursing staff and the ready access to experienced surgeons and nephrologists in theatre dress and present beside me in theatre for large parts of the procedure. You've named Dr Montague again you know for us looking for the specifics do you recall who the experienced theatre nursing staff were.

TAYLOR The case started with the night staff.

Hm hm.

TAYLOR I cannot remember their names.

Right.

TAYLOR They will have been recorded.

Yes.

TAYLOR And then they changed over cause the case started, the normal nurse exchange time is 7 having said that sometimes the nurses come on duty early and they don't like changing scrub nurse.

Right okay.

TAYLOR Halfway through.



Right.

TAYLOR So they prefer cause it means the count.

Yeah.

TAYLOR The needle count and the swab count.

Yes.

TAYLOR Can be inter, cannot tally up.

Okay.

TAYLOR So it might have been that the day staff were told to come in early.

Right.

TAYLOR To start the case.

Right.

TAYLOR In fact that might have been a reason for delaying it past 0600 I can't remember, I can't remember.

Yeah right that's fair enough I think it is in the record we'll come back to that.

TAYLOR It will be there on the record.

Ready access to experienced surgeon my understanding of that is Doctors (inaudible) and Brown.

TAYLOR Yeah.

Were there any other surgeons involved to your recollection.

TAYLOR I think other surgeons came in to the ward but I don't think any others scrubbed in.

Okay right.

TAYLOR I think we were the only 2 scrubbed surgeons performing (inaudible).

And the nephrologists do you recall Doctor Savage.



TAYLOR Well I think I'd a clinic that morning Doctor O'Connor.

Yeah.

TAYLOR (Inaudible) in there and I think she changed into theatre dress my recollection is but -

- Right -

TAYLOR - I can't -

- right -

TAYLOR - can't be (inaudible) she was certainly there while the kidney was put in because she'd given me the drugs the anti-rejection drugs.

Right.

TAYLOR At that time.

Right and Doctor the next paragraph therefore my actions are as a team member and a team leader for anaesthesia. Doctor Montague and or myself were present with Adam in theatre at all times. Now that suggests to me that what you're saying is this operation lasts for 4½ hours or thereabouts and during the 4½ hour period you were present with Adam or Doctor Montague or both of you.

TAYLOR That is correct.

But that leaves the possibility that you might have been there for the first 5 minutes only if you know what I mean and then it was Doctor Montague.

TAYLOR Hm hm.

Is it possible for you to be any more specific as to your presence there and his presence there.

TAYLOR I think if you look at the anaesthetic record.

Yes.

TAYLOR Most of the ticks.

Yeah.

TAYLOR Are made by me.



That's your.

TAYLOR I would have been there for the whole procedure apart from a quick comfort break.

Right, right.

TAYLOR I maintained vigilance throughout but obviously could not sustain that.

Yes fair enough.

TAYLOR Comfortably.

Yeah.

TAYLOR For 4 hours but I would have been there for 90 something per cent of the time.

Right.

TAYLOR But you can look at the records it's impossible to see who has ticked each box.

Yes.

TAYLOR I think most of the ticks are mine.

Yours okay.

TAYLOR Doctor Montague hasn't written much in the records.

And Doctor again this is my ignorance of what actually goes on in a theatre but is it possible for you to be there but in a sense taking a back seat to Doctor Montague so that he was actually looking after the patient and you're taking a bit of relaxation you're there but you're not actually in charge.

TAYLOR Yes I mean many studies have been done about vigilant 20 minutes is about -

- Yes -

TAYLOR - the maximum you can maintain intense concentration for.

Yeah.



TAYLOR So I can't concentrate nobody can concentrate for longer than intensely.

Yeah.

TAYLOR For longer than 20 minutes.

Right.

TAYLOR So yes there would have been occasions when we conversed and discussed.

Yeah.

TAYLOR But there would have been a watchful eye.

Yeah.

TAYLOR At the surgical field over the (inaudible).

Hm hm.

TAYLOR And at the monitors.

Yes.

TAYLOR Constantly.

Fair enough.

TAYLOR So I would have been aware of everything that happened.

Yeah.

TAYLOR In the theatre.

And then the middle of the next paragraph at 0700 hours I worked closely with Doctor Montague and the anaesthetic nurse do you recall who he or she was.

TAYLOR It would have been a she we have no male anaesthetic nurses, I can't remember who that was it might have been the night staff it will have been recorded.

Unfortunately Doctor it hasn't been I know that, it appears to me that there was a scrub nurse there and there was a runner I believe (inaudible) was the scrub nurse and there's yourself and your colleague Doctor Montague and



the expectation was in some of, among some of the other nurses that we interviewed who may well have been an anaesthetic nurse we have never traced her but we have traced an anaesthetic technician who.

TAYLOR Yeah.

I suppose is more medical than nursing.

TAYLOR Yeah.

Looks after the equipment.

TAYLOR That's right.

I think it's Peter Shaw.

TAYLOR Hm hm.

Was, is his name and is it possible that the operation would have proceeded with you, Doctor Montague and Mr Shaw as the technician and no anaesthetic nurse.

TAYLOR My knowledge is there has to be 3 nurses present before an anaesthetic is commenced.

Right.

TAYLOR Before an operation commenced. The runner is usually a nursing auxiliary.

Right.

TAYLOR But there would have been 2 trained, 2 trained staff.

Right, right it may well just be a gap in the record and obviously with the passage of time you can't expect anybody to produce a name from their memory.

TAYLOR Her job would have been as an assistant to me she would not have been responsible for prescribing -

- (Inaudible) -

TAYLOR - or delivering any (inaudible) -

- yeah -

TAYLOR - to reach me a tube -



- yeah -

TAYLOR - very much an assistant really.

Then Doctor page 5 at the very end of the second last paragraph when continuously reassessing Adam's fluid replacement we used all the information available from the anaesthetic monitor as well as visualising the impact from the surgical field. What does that mean to a lay person, you have your monitors and you're using those and you're also visualising the impact from the surgical field what does that mean.

TAYLOR In crude terms you can see blood being spilt.

Right.

TAYLOR You can see blood spurting.

Okay.

TAYLOR Now the monitors are giving information about the blood pressure.

Yeah.

TAYLOR And the heart rate.

Yes.

TAYLOR But you can appreciate that can take a while.

Yes.

TAYLOR To acknowledge.

Okay.

TAYLOR A sudden loss of blood.

Right.

TAYLOR And the surgeon should tell us I've lost, I've got a pumper down here.

Yes.

TAYLOR But to see blood hitting the roof.



Yes.

TAYLOR Literally.

Yeah.

TAYLOR Which we have seen before is a very important element of anaesthesia.

Right.

TAYLOR So we must position ourselves in a place as well as looking at our technology.

Yeah.

TAYLOR To actually see what's happening in real time with the patient blood doesn't be lost as maybe you can see in the swab count in a very steady manner.

Yes, yeah.

TAYLOR Peaks and troughs.

Right.

TAYLOR And the surgeon may take 2 or 3 large swabs into a bleeder and to control haemorrhage.

Right.

TAYLOR But those swabs aren't weighed for maybe.

Yes.

TAYLOR Half an hour.

Okay right.

TAYLOR Later.

Hm hm.

TAYLOR The blood it's there to congeal and coagulate.

Right.

TAYLOR So I have to be vigilant to visualise the surgical field also



it's important and relevant to this case because we all can see the kidney.

Yes.

TAYLOR We can see if it's blue or pink.

Yeah.

TAYLOR I have given anaesthetic where the kidney has not worked.

Yes.

TAYLOR Surgeons blame anaesthetists.

Right.

TAYLOR For that, you haven't got enough fluid in, you haven't got enough and the impact on.

Right.

TAYLOR On us is dramatic.

Right.

TAYLOR We don't want to be responsible for taking the blame, taking the wrap.

No, yeah.

TAYLOR Because for sure they'll go back and tell the parent that the anaesthetic didn't give enough blood to make this kidney work, they will never say I messed up.

Right well.

TAYLOR It's human nature, it's surgical nature and that unfortunately has happened to me in the past.

Right, right would that have happened to you prior to Adam's operation in relation to these particular surgeons (inaudible) and Brown.

TAYLOR No.

No.



TAYLOR Mr Brown isn't a transplant surgeon he offered to help.
Yeah.

TAYLOR For his knowledge of paediatrics.
Yeah but I think he says himself that he knew Adam well.

TAYLOR He knew Adam well from previously.
Yes and to your knowledge would Dr (inaudible) have had significant experience of paediatric transplant of this nature.

TAYLOR I can't really comment, we don't do these every week.
Yes.

TAYLOR We wouldn't be doing them every week.
Yeah, as far as the explanation of visualising the impact in the surgical field that's specific, specifically relating to blood loss.

TAYLOR Also colour of the blood.
Okay.

TAYLOR (Inaudible) can tell us the patient's covered in drapes.
Yes.

TAYLOR And you can't see the look of skin as clearly as you normally could so detection of all critical events.
Hm hm.

TAYLOR If there is a bleed or you want (inaudible).
Yeah.

TAYLOR The blood pressure you want to see the arteries and veins.
Yeah.

TAYLOR (Inaudible) even if they're not bleeding.
Yes.



TAYLOR So being able to visualise the field is important for not just blood loss but also awareness of the colour of the blood, the general profusion, the general ambience.

Right.

TAYLOR The living, the living patient, everything working.

(Inaudible) yes sorry page 9 the largest paragraph at the top, the use of (inaudible) medicine what actually does that mean.

TAYLOR Purely to save me driving to other hospitals to feed back on patients who have been transferred to I think this in relation to the question of what teaching.

Yeah right.

TAYLOR Have I been involved in so I initially went out to meet other (inaudible) because there was a lot of difficulties with getting intensive care beds (inaudible).

Yeah.

TAYLOR And this led to communication failures (inaudible) so I tried to reach out.

Yeah.

TAYLOR And improve but it became clear that going to other hospitals inviting other people to sit round a table and work through common policies was not (inaudible).

Right.

TAYLOR So I decided to use the web basically.

Right.

TAYLOR We already have the (inaudible.)

Right.

SOLICITOR (Inaudible.)

TAYLOR This is recently yeah.

Yes right okay.



TAYLOR I mean I have linked up with Altnagelvin and Causeway.
Yeah.

TAYLOR But it's purely a learning.
Yeah.

TAYLOR Environment.
Doctor do you want a break you're reading for almost an hour I'm aware, do you want a break or are you happy just to go on, take a break.

TAYLOR I'll take a break.
Would you like a coffee, water, tea.

TAYLOR Tea please.
Tea, milk, sugar.

TAYLOR No black.
Black.

TAYLOR Thank you very much.
Okay.
Happy enough just to stay here.
(Inaudible.)
Do you want this stopped yeah.
Aye I suppose we should it's 1141 and we'll stop the tape.

**CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0176410A
INTERVIEW OF ROBERT TAYLOR ON 17 OCTOBER
2006 BETWEEN 1108 HOURS AND 1141 HOURS**





Right we're going to commence the second interview on the date is the 17th of October 2006 and the time on the clock on the wall is 1201. There are 4 people here in an interview room in Grovenor Road Police Station, Belfast. I am Detective Sergeant Cross from MIT Gough and another officer with me is.

I'm Denise Graham a Detective Constable from the MIT in Gough.

And Doctor your name is please.

TAYLOR Doctor Robert Henry Taylor.

And we've a solicitor present.

SOLICITOR Gary Daly.

And Mr Daly your firm is.

SOLICITOR MSC Daly, Solicitors.

Right thank you. Doctor again just to remind you that you're here not under arrest and you're free to go at any time and you have your legal, legal advisor with you.

TAYLOR Hm hm.

And we're all aware of the nature of the interview and the purpose for being here. Before we continue with any questioning I want to caution you again and tell you that you don't have to say anything but I must caution you that if you do not mention when questioned something which you later rely on in court it may harm your defence. If you do say anything it may be given in evidence and again Doctor I'm obliged to explain that we will be asking questions you don't have to answer, however if the matter went to court and you told the court something that you could have told us and didn't a court may take a view on how much reliance to place on that and equally anything you do tell us if the matter went to court may be, will be told to the court as part of the evidence in the case and we're here to investigate the circumstances surrounding the death of Adam Strain in November 1995 because of concerns that have arisen about his death and others and obviously it's not the police field of expertise at all we're very reliant on experts.

TAYLOR Hm hm.



And we have interviewed quite a few people and in an attempt to try to establish the facts and the truth we're interviewing yourself now Doctor about your role in it and in the first interview you have gone through a statement prepared for the public enquiry that we have exhibited WRC99 and I have asked a few questions just to clarify things that I was interested in or that I didn't understand. I want to continue now with other things that I would like your comments on Doctor. It appears to me that as far as the medical staff are concerned there are 2 classes of medic in the operation, there are the anaesthetists and there are the surgeons and for my understanding of I suppose process and procedure could you explain to me what your role is in relation to Adam and what the surgeon's role is in relation to Adam.

TAYLOR Ahm yes my role is to provide safe anaesthesia.

Hm hm.

TAYLOR Ensure the respiratory system.

Yes.

TAYLOR The airway.

Right.

TAYLOR The respiratory system the circulation.

Yes.

TAYLOR Are supported because in the unconscious patient they can't support.

Yes.

TAYLOR Their own breathing.

Okay.

TAYLOR Or circulation, I'm also responsible collectively with him but it is my responsibility to ensure no injuries happen to him in theatre because again he's unconscious.

Yes.

TAYLOR But again I have to, if surgeons are causing injury I have



to -

- Yes -

TAYLOR - work with them to make sure there is no inadvertent injuries.

Okay.

TAYLOR Such as an arm.

Right.

TAYLOR Falling off the table and getting.

Okay.

TAYLOR An injury to an arm so.

Right.

TAYLOR I have to package him.

Yes.

TAYLOR If you like.

Right.

TAYLOR On the table keep him safe.

Yes.

TAYLOR I have to provide a warm environment for him to make cause he can't maintain his body temperature.

Right.

TAYLOR I have to ensure that what the surgeons do to him in terms of what they do inside him doesn't cause a reflex action in his body so I have to provide pain relief.

Right.

TAYLOR To make sure his body doesn't respond wrong inadvertent, wrongly to an incident.

Yeah.



TAYLOR I have to give him drugs and fluids to ensure that he is delivered safely through the operation.

Right.

TAYLOR And in this case that required close consultation with certainly Doctor O'Connor.

Yes.

TAYLOR Because giving drugs to prevent rejection.

Yes.

TAYLOR When a new kidney is put in is beyond my.

Okay.

TAYLOR Beyond a general anaesthetic.

Yes.

TAYLOR Knowledge so we work as you said surgeons and anaesthetists are the main people in theatre but for a case like Adam.

Right.

TAYLOR We would get the experts.

Yes.

TAYLOR To either come in or be close by.

Right so Doctor O'Connor would have had a role in as far as the medication to prevent rejection.

TAYLOR That's correct.

Right okay.

TAYLOR And as a general expert in.

Yes.

TAYLOR The patient's background.

Yes.



TAYLOR In an underlying medical condition.

Right, right and so right that helps me to understand what your role and what your responsibilities were to Adam. Now can you sort of define similarly for me what Doctor Keane, Doctors Keane and Brown's responsibilities were.

TAYLOR Well they'd be purely I'm not surgically trained so I can't -

- No I appreciate that -

TAYLOR - tell you.

Yes.

TAYLOR What they're trained to do.

Okay.

TAYLOR But presumably they're trained to, I speculate that they're trained to.

Right.

TAYLOR Do the procedure.

Hm hm.

TAYLOR Competently and to minimise a prolonged period of time they have to do it within a reasonable time.

Yes.

TAYLOR They have to ensure that they don't cause infection.

Yes.

TAYLOR So they undertake sterile.

Yes.

TAYLOR Methods, they have to minimise the blood loss, to avoid changes in the patient's physiology.

Hm hm.

TAYLOR And they have to be trained and competent in the area of surgery that they're working in.



Right.

TAYLOR But that's only me as an observer of surgery you see I'm not.

I'm appreciate that.

TAYLOR Trained in surgery.

Yeah but obviously your opinion of what their role is while it's only an opinion is much better than my opinion if you know what I mean so you will inform me -

TAYLOR - I might distract you from true opinion and there's a close relationship.

Yes.

TAYLOR If that's helpful to you.

Yes.

TAYLOR There is a close symbiotic relationship.

Right.

TAYLOR Between the case you have to look for the patient's best interests and the surgeons and anaesthetists must co-operate.

Right.

TAYLOR And work together.

Right.

TAYLOR Follow the GMC guidelines all.

Yeah.

TAYLOR Working together for the patient's best outcome.

Yeah.

TAYLOR So they have a role as well as their technical role in communicating.

Yes.



TAYLOR In optimising the timing.

Hm hm.

TAYLOR And the conduct, the environment for an operation to take place.

Right well Doctor one of your and I suppose your role that is of most interest to me at the minute anyway is in relation to fluids.

TAYLOR Correct.

Obviously because of what has been said at the inquest and the concerns since. Now in relation to anything to do with the fluids what is the input from the surgeon to those issues.

TAYLOR The surgeon has to focus on the technical aspects of his work.

Hm hm.

TAYLOR So he is aware of other things happening around him.

Yes.

TAYLOR He can often tell me if the wound is bleeding a lot if, we rely on him to inform.

Hm hm.

TAYLOR Often surgeons are in a position to pick up not that it happened in Adam's case.

Yes.

TAYLOR But if there is a sudden loss of oxygen.

Right.

TAYLOR To the blood the surgeons.

Yes.

TAYLOR Can pick that up.

Yes.



TAYLOR So in Adam's case the surgeon's number 1 priority was to prepare an area inside his tummy to receive a kidney.

 Right, right.

TAYLOR During that and they will be focused very closely on that.

 Hm hm.

TAYLOR So they will in a way shut themselves off.

 Hm hm.

TAYLOR From other aspects of that.

 Yes.

TAYLOR And so they will expect the anaesthetist to be sufficiently.

 Yes.

TAYLOR Skilled.

 Right.

TAYLOR To provide a safe environment for them to operate.

 Doctor -

TAYLOR - But they would come back to me if they feel that the blood pressure or the circulation isn't adequate.

 Yes.

TAYLOR To take the kidney.

 Yeah.

TAYLOR That's a very, when they go to let the clamp off.

 Yes, yes.

TAYLOR That's the time they have, they become.

 Yes.

TAYLOR Very aware.



Of the fluids.

TAYLOR Of the anaesthetic.

Yes.

TAYLOR Element that's correct.

Fair enough, Doctor one of the issues that we have had to investigate was to do with the decisions made in relation to the placing of the kidney. There are a number of options I understand you can go outside the peritoneum as happened in Adam's case or you can go inside the peritoneum beside the right colon, the right ascending colon if that's right and some said to us that what was done in Adam's case was wrong and should have gone inside his peritoneum. Would you have any responsibility or role in a decision of that nature.

TAYLOR No.

Right so you're clear that that is a matter for the surgeons whether they, whether they were right or wrong.

TAYLOR Correct.

It's their issue but there was also an issue raised with us that they for instance attached the artery and vein from the kidney to the ileax and some said that was wrong too it should have gone elsewhere I think to the main vein in the main artery. Would, whether that's right or wrong have you any responsibility in that regard.

TAYLOR No.

Right that again in your opinion is a matter for the surgeons.

TAYLOR Correct.

And their decision right now conversely Doctor if you decided to give say Hartman's or the number 18 solution or normal saline or anything would the surgeons have any responsibility in respect of that decision or is that your decision.

TAYLOR That is a liaison decision there is an element of co-operation.



Right.

TAYLOR Because and as I said in an earlier answer it is always the case in my experience of transplantation surgery that the surgeon asks for more fluid to be given.

Right yes.

TAYLOR I am not, I can't remember.

Hm hm.

TAYLOR If we had that conversation during this case.

Hm hm yeah.

TAYLOR But it would have been the norm.

Yes right.

TAYLOR I don't remember any kidney transplant that I haven't been asked to push more fluid.

Yes.

TAYLOR By the surgeons.

Hm hm.

TAYLOR Specifically by the surgeons.

Hm hm and can I ask Doctor is there a demarcation and responsibility between yourself and Doctor Montague during the operation.

TAYLOR Because Adam was such a complex case and I was a fairly junior consultant I was appointed in 1991.

Right.

TAYLOR I would have taken full responsibility for.

Right.

TAYLOR He had had multiple anaesthetics before.

Yes.

TAYLOR His veins and arteries were scared.



Hm hm.

TAYLOR And he was a difficult child and my role was I did mostly everything.

Hm hm.

TAYLOR Technically with his anaesthetic and I was also there for wanting to be present for most of his anaesthetic it was just a vast element, Doctor Montague was there to learn he was a trainee doctor.

Right.

TAYLOR His job was there to (1) learn and (2) help and for instance if I'm busy doing a procedure I can't be watching Adam's vital signs.

Hm hm right.

TAYLOR So Doctor Montague's there to monitor him.

Hm.

TAYLOR While I'm scrubbed, if I'm scrubbed with my gloves on.

Right.

TAYLOR Doing a central line or arterial line, epidural I can't be concentrating.

Right.

TAYLOR Like turning knobs.

Yes.

TAYLOR Or changing drips so his role is there number (1) as a trainee to learn and (2) to provide back up to me as the main person.

Yeah.

TAYLOR The lead.

And do you recall Doctor before the operation began who would have been in charge of Adam's preparation for surgery.



TAYLOR On Sunday night Doctor Savage phoned me.

 Right.

TAYLOR He was Doctor in those days.

 Yes.

TAYLOR And he was responsible.

 Right Doctor Savage.

TAYLOR I presume he phoned me so I presumed he was
 responsible.

 Hm hm, as far, you know my understanding is that Adam
 had been sick for much if not all of his life, nevertheless it
 is recorded that at the time of the operation he was
 healthy and I think one doctor described him as an ideal
 candidate, is that your opinion that he was well enough for
 the operation.

TAYLOR When we assess patients.

 Yes.

TAYLOR Before anaesthetic we want to make sure they've no
 acute illnesses.

 Hm hm.

TAYLOR And it's true Adam didn't have an acute illness.

 Right.

TAYLOR Didn't have a respiratory tract infection, chest infection he
 didn't have a viral.

 Hm hm.

TAYLOR He wasn't unwell.

 Yes.

TAYLOR So I would agree that he was.

 Right.



TAYLOR In good health however his chronic status of congenital nephrotic syndrome did not make him a perfect candidate.

Yeah.

TAYLOR For him picking a time to have his anaesthetic probably was as good a time as any.

Right.

TAYLOR But his complex background and the presence of his native kidneys with this very large output complicated my anaesthetic enormously.

Right.

TAYLOR It's uncommon for a patient to have the underlying medical condition that Adam had.

Yes I understand.

TAYLOR Having an operation.

Yeah it's usually the other way round that they're not producing -

TAYLOR - They usually have no (inaudible) -

- yes -

TAYLOR - that's correct.

Yes and in your opinion Doctor do you believe that Adam's preparation for surgery was adequate and appropriate.

TAYLOR Ahm at the time and in retrospect I would have liked Adam to be better prepared.

Right.

TAYLOR I can't deny that.

Yes.

TAYLOR But with paediatric anaesthesia it's, there is a compromise to be made.

Hm hm.



TAYLOR And that compromise was balancing Adam's case by knowledge of him as an individual, we knew from many times on dialysis that his blood chemistry was water content of his blood was by and large fixed so we can make an assumption we had to make an assumption at that time do we continually hurt him with needles or do we, do we assume that his management of dialysis was the same as before.

Right so when you say you would have liked him better prepared what.

TAYLOR I would have liked an intravenous line to have been.

Okay.

TAYLOR Erected.

Yes.

TAYLOR As I said in my statement.

Yes.

TAYLOR And that would have meant he wasn't fasting.

Yes.

TAYLOR The fact he was fasting meant that we had to back calculate the food he should have been given to correct the deficit.

Right.

TAYLOR And also his chemistry could have become deranged in that time.

Hm hm.

TAYLOR They've no record of that, if his chem..., if his sodium had been low for instance.

Yeah.

TAYLOR Hypothetically.

Right.



TAYLOR At the start of anaesthesia.

Hm hm.

TAYLOR We would have, it would have been a factor in the decision to proceed with the surgery.

Right.

TAYLOR It would have been a factor.

Right so again for my understanding reading your statement and your deposition there was a, you had authorised fluids either yourself or Doctor Savage, there was an authorisation given to the night staff to continue fluids up until 2 hours before the operation at which point they finished.

TAYLOR Yes I think milk feeds were continued 6, 6 hours before operation.

Yes.

TAYLOR The milk feed.

Yes.

TAYLOR But you can't -

- (Inaudible) was on.

TAYLOR Yes.

Okay.

TAYLOR You can't have milk in your stomach.

Right.

TAYLOR Or solids.

Yes.

TAYLOR So the fasting regime.

Yes.

TAYLOR In our hospital is 6 hours for solids.



Right.

TAYLOR Including milk.

Yes.

TAYLOR That's a solid.

Right.

TAYLOR Cause the stomach takes a long time to empty.

Right.

TAYLOR Fatty foods.

Yeah.

TAYLOR But we allow clear fluids.

Yes.

TAYLOR I think it was in his case dioralyte.

Yes.

TAYLOR Which had no milk or salt content and that could be given 2 hours and then we know that from research that.

Yes.

TAYLOR Stomach empties clear fluid.

Right.

TAYLOR Safely.

Yes.

TAYLOR So we worry about patients have died.

Okay.

TAYLOR Vomiting during anaesthetic so this is to make sure that a fasting period.

Right so what, what that means to me again as a lay person is if they had got IV an intravenous line in they could have given the whatever was prescribed.



TAYLOR Maintenance fluid.

Maintenance fluid right up to the point of the operation and you wouldn't have had the 2 hour deficit.

TAYLOR Absolutely.

But because that wasn't achieved they had to stop all fluids.

TAYLOR Correct.

At 2 hours okay right I understand that.

TAYLOR That's absolutely correct.

Right and then there is an issue Doctor I mean a one word answer would suffice although I'm sure I'll make the question a lot longer, who was in charge of Adam during the surgery. I have been given conflicting advice now some say the surgeon is in charge of everything and others say no that's not true he's in charge of what happens one side of the drapes, you are in charge or the anaesthetist is in charge of everything else and there is no overall boss as such.

TAYLOR I'm a professional and I'm responsible to my college and my, and the GMC for action that I take.

Yeah.

TAYLOR So I am responsible for that.

Right.

TAYLOR As I have described a large element of his safety.

Hm hm.

TAYLOR The surgeon I worked in Canada.

Hm hm.

TAYLOR And there the surgeons take this idea their patient belongs to the surgeon.

Right.



TAYLOR (Inaudible.)
Yeah.

TAYLOR There's a hierarchical structure.
Okay.

TAYLOR Across the Atlantic.
Right.

TAYLOR In America and Canada like a surgeon.
Yeah.

TAYLOR Controls.
Right.

TAYLOR Every aspect.
Right.

TAYLOR And the anaesthetist does what they're told in this country
it's a team.
Right.

TAYLOR Effort.
Right.

TAYLOR And there's very good communications.
Yeah.

TAYLOR Between surgeon and anaesthetist so it's, it's a
co-operation rather than a team.
Yeah.

TAYLOR Especially about team leader.
Doctor before the operation occurred the fluid
management had to be planned.

TAYLOR Correct.



Now who is responsible for the planning of the fluids.

TAYLOR Me.

Right and the actual, so you draw up the plans of what's going to happen and then during the operation those plans have to be implemented and fluid has to be given.

TAYLOR Can I qualify that.

Yes.

TAYLOR I'm the overall responsible.

Right.

TAYLOR But it's discussed with.

Right.

TAYLOR The main team, the nephrology team.

Yes right.

TAYLOR My junior anaesthetist and to some extent the surgeons.

Right so what you're saying is that would be Doctor Montague that while you have overall responsibility it's discussed and agreed with Doctor Montague and the nephrologists are Doctor Savage and O'Connor.

TAYLOR Correct.

Right and then to a lesser degree you say with Doctors Keane and Brown.

TAYLOR Yes for instance we may plan to let his blood count drop to a certain level or they may I'll talk to them about when they want to get blood.

Okay.

TAYLOR At an early stage or at a late stage.

Right.

TAYLOR When they want me to fill his circulation.

Yes.



TAYLOR Before they release the clamps.

 Right.

TAYLOR So that will have been although I was responsible for the
 fluid plan.

 Hm hm.

TAYLOR It was taken in conjunction with everybody present.

 Yeah fair enough and then Doctor once you have your
 plans drawn up the actual implementation of those plans
 and the physical administration of fluids during the
 4½ hours who in Adam's case was responsible for that.

TAYLOR Me.

 Right.

TAYLOR With others.

 Right.

TAYLOR Changing the bags for instance is that what you mean,
 physically changing.

 Yes.

TAYLOR One bag to the next.

 Yes and.

TAYLOR At the end of every.

 Hm hm.

TAYLOR Time period.

 Yes.

TAYLOR During every time period.

 Yeah.

TAYLOR As I say a reappraisal of fluids in Adam's case was one of
 our main.



Yes.

TAYLOR

Jobs.

Yeah.

TAYLOR

So during and at the end of each fluid bag.

Yeah.

TAYLOR

Then they discuss what to put up next.

Yeah right that's fair enough and while the fluid then is being administered during the operation monitoring has to go on.

TAYLOR

Yes.

And whose responsibility is it to actually monitor what effects this is all having.

TAYLOR

The monitors are instituted at the start.

Hm hm.

TAYLOR

At induction of anaesthesia.

Yes.

TAYLOR

And they're continuous.

Right.

TAYLOR

The arterial line for instance is a continuous.

Yes.

TAYLOR

It's not measured every 5 minutes or every 3 minutes.

Right.

TAYLOR

It's continuous.

Right.

TAYLOR

And the computer printout indicates a continuous display.

Yes.



TAYLOR So the monitoring is to watch the monitors.

 Yes.

TAYLOR Is the anaesthetist's response Doctor Montague.

 Right.

TAYLOR And myself.

 Right.

TAYLOR But primarily myself but if we're distracted drawing up
 drugs or making calculations and our backs turned to the
 monitors.

 Hm hm.

TAYLOR And someone notices.

 Yes.

TAYLOR Oh that blood pressure's dropped the nurse may well but
 it's infrequent that that would happen.

 Right.

TAYLOR Frequently we're set alarms and the parameters deviate
 by a pre-set amount.

 Yeah.

TAYLOR The alarm will draw our attention.

 Yes.

TAYLOR Back to the monitor.

 Right that's grand and Doctor so you with the team are
 responsible for planning the fluids, what is the aim of fluid
 management during the operation what are you
 endeavouring to achieve.

TAYLOR Can I go back to my statement.

 Yeah certainly.

TAYLOR In my statement on page 4 number 1 to replace the fluid
 deficit, 2 to provide fluid maintenance requirements each



hour, 3 to replace any blood loss, 4 to improve organ profusion and dependent on all the feedback.

Yes.

TAYLOR From visualising the wound as we've -

- Yes -

TAYLOR - talked about and the information from the monitors.

Yeah.

TAYLOR Really taking no single element on its own.

Right so that's really 4, there's 4 aspects.

TAYLOR Correct one of the things we teach doctors in anaesthesia is don't treat numbers treat the patient there's been so many cases of.

Yeah.

TAYLOR Plane crashes and the like.

Yes.

TAYLOR Where people focus on a single.

Yes.

TAYLOR Number.

Yeah.

TAYLOR Which turns out to be.

Yeah.

TAYLOR Wrong.

Okay.

TAYLOR And can cause fatal consequences.

Right and you said sorry -

TAYLOR - And 5 you need to increase this idea as I've described before of increasing his blood volume.



Yeah.

TAYLOR But carefully.

Yes.

TAYLOR Increasing his blood volume with the knowledge that we may actually make him it's a medical term hyper volumic.

Yes.

TAYLOR In other words deliberately, deliberately give more fluid into his circulation.

Yeah.

TAYLOR Than what we would normally give.

Yeah, yeah I understand.

TAYLOR That's my.

The second point there Doctor was in relation to maintenance.

TAYLOR Yeah.

Again to a lay person what does that mean, what are you endeavouring to maintain.

TAYLOR Every human body requires so much.

Yes.

TAYLOR Fluids in a day to maintain brain function and it's a mixture of the water content.

Right.

TAYLOR Plus the salts, plus the sugar and if we don't now adults aren't too bad cause we've got stores in our body of sugar.

Right.

TAYLOR Which we can readily immobilise, children don't.

Right.



TAYLOR Children are well knowledge the knowledge is children don't have the same reserves as big adults.

Right.

TAYLOR The liver has a ready supply of glucose that we can use.

In adults.

TAYLOR In adults mainly.

Yeah.

TAYLOR Young children like Adam cannot mobilise sugar.

Right.

TAYLOR So readily and it is relevant if I can just.

Yes go on ahead.

TAYLOR The epidural anaesthetic that I give for -

- Yeah -

TAYLOR - post operative pain relief.

Yes.

TAYLOR Primarily has an effect of making the body fooling the body into thinking there's no operation going on.

Right.

TAYLOR If you stress a human body.

Right.

TAYLOR A stress response is to prepare that body for fight or flight.

Yes.

TAYLOR It's to prepare that body to sugar ready.

Hm hm.

TAYLOR For the.



Yeah.

TAYLOR For the stress ahead.

Right.

TAYLOR Humans have developed his through evolution.

Right.

TAYLOR Whatever it's been shown that if you put an epidural in you fool the body into thinking there's no stress going on.

Right.

TAYLOR It's been well described and I've had cases where the blood sugar can drop to very dangerous levels.

Right.

TAYLOR During operation if you don't administer glucose.

Okay.

TAYLOR So as I said and again my statement near the end but I measured the blood glucose at the end and there was only 4.

Hm hm.

TAYLOR Which is okay but it meant that if I give him less of the sugar.

Yeah.

TAYLOR Solution than I had given he could have suffered dangerous loading of sugar.

Right.

TAYLOR And therefore brain damage.

Right obviously if we can just stay.

TAYLOR The balance is (inaudible).

Yeah if we can stay with that point because.

TAYLOR Sure.



We'll be coming on to suggest that you know number 18 was a wrong solution others have said that. The options that you had at that time were number 18, Hartmans or normal saline.

TAYLOR That's correct.

In Hartmans am I right in understanding there is no.

TAYLOR There is no sugar.

Sugar.

TAYLOR Correct.

And what about normal saline.

TAYLOR Normal saline has no sugar.

No sugar so if you want to administer glucose but not use number 18 solution what options would you have had.

TAYLOR Ahm not many.

Right.

TAYLOR There weren't many other solutions.

Right.

TAYLOR We could have used 5% dextrose.

Right.

TAYLOR Which has got no salt there's no sodium.

Right.

TAYLOR I wanted, I knew, I knew Adam was losing 30 millimoles per litre of sodium in his urine that had been established.

Sorry Doctor if I said sodium there I meant sugar.

TAYLOR I know.

Sorry.

TAYLOR I knew Adam was losing some sodium.



Yeah.

TAYLOR I wanted to give him a solution that reflected the amount of sodium.

Right.

TAYLOR He was normally losing.

Right.

TAYLOR That's why I chose fifth normal.

Okay right.

TAYLOR It has the same quantity of sodium that his urine has.

Yes.

TAYLOR So you were replacing like for like.

Hm hm.

TAYLOR Whatever he was losing we were replacing.

Right and when you focused your mind on planning for the fluids that you're going to give what information would you require to do that properly.

TAYLOR Adam's medical records his previous medical history, knowledge of his, his physiological, his normal state and as I said the need, the need to provide glucose. Adam was fed at night, children with nephrotic syndrome suffer poor nutrition poor weight gain and he was actually fed when he was sleeping into his stomach.

Right.

TAYLOR His night feeds were 2 litres.

Yes.

TAYLOR He was difficult to feed he was food adverse I believe, there were psychology reports in his notes, he was a difficult child but to maintain normal development it was necessary to put a tube in his stomach called a peg tube and feed him at night. We were doing this operation at night during that feeding period now again children are



different than adults it's okay to emphasise that, if you're getting fed at night your body starts producing insulin at night that's an abnormal, the body clock has to alter.

Yes.

TAYLOR

If we, we eat during the day and our body makes insulin where we take a feed to keep our blood sugar at normal levels. Children like Adam it's been described as getting hyper insulinism so their body is used to produce insulin which drops the blood sugar but his did it at night. Now normally when we're sleeping our insulin levels are very low.

Yes.

TAYLOR

Cause we don't want to drop our sugar at night we need to keep our brains.

Yes.

TAYLOR

Alive, sugar's necessary so Adam's whole system was back to front.

Yeah.

TAYLOR

In so many ways metabolically, electrolytes, I had to provide glucose overnight with him because his body was used had adapted to living in this world.

Yes.

TAYLOR

Where it, if you didn't give him sugar his sugar drops and he has a fit, a seizure so when I came in and found he hadn't had any sugar for 2 hours but knew that his body was expecting to see sugar because it was pouring out insulin then it was another element that I was concerned about delaying this.

Right.

TAYLOR

And I had to then get the sugar into him.

Yeah.

TAYLOR

So there are other alternatives to the fifth normal I could have given pure sugar into his veins.

Yeah.



TAYLOR But I thought that that would be a bad thing.

Right.

TAYLOR I wanted to give him an element of salt.

Yeah.

TAYLOR Which was as close to the salt that he was losing.

Right.

TAYLOR Down his kidneys.

Right.

TAYLOR As I could find.

Right so what you're saying is for you to properly plan that the information that you needed is basically his I suppose his medical history.

TAYLOR Everything about him.

And his normal state as far as feeding go.

TAYLOR Absolutely.

And were you happy Doctor that you got all the information that you needed to allow you to plan properly.

TAYLOR I think as I said in my statement it was a cause, another cause of the delay although we'd tried to kick off at 6 am.

Yes.

TAYLOR In fact I don't think we got started the anaesthetic to 7.

Yes.

TAYLOR So despite having questioned Doctor Savage the night before and gained as much as I could about him.

Yeah.

TAYLOR There was clearly a lot more information to catch up on.

Yeah.



TAYLOR And obviously you don't start a flight, you don't start an anaesthetic until you're happy.

Yes.

TAYLOR That you know.

Yeah.

TAYLOR Everything about the patient, allergies and everything.

Yeah and you've mentioned Doctor Savage there in I suppose getting all this information about his normal state and what had happened overnight did you consult with any of the other night staff that you can recall.

TAYLOR I'd written nursing staff no because there were no, none of the senior.

Yes.

TAYLOR No doctors in that morning.

Yes.

TAYLOR Until 8 o'clock I think when Doctor O'Connor came in so.

Right.

TAYLOR It would have been nursing staff primarily.

Right.

TAYLOR But again reading the notes I would have done a lot of the research without any staff present.

Right.

TAYLOR Or maybe the mother would have, mothers know a lot, particularly mothers of children like Adam.

Yeah.

TAYLOR Know their child very very very well.

Right.

TAYLOR And you would gain a lot of information by talking to them.



And do you recall did you speak to her about that.

TAYLOR I did yes, it's in my statement I spoke to his mother.

And as far Doctor as that's the planning then whenever it comes to I know I'm being pedantic here because I think you have covered this but just so that I'm certain sure, as far as the administration and setting up bags etcetera would it have been that you would have written prescriptions.

TAYLOR No.

For certain things and left it to others to do or were you personally involved in all those.

TAYLOR In theatre we don't write a prescription and somebody else -

- Yes -

TAYLOR - gives the drug like the wards we, we give drugs and write it in the anaesthetic record.

Right.

TAYLOR And with fluids again I was there for I think every bag change.

Right okay and Doctor moving on then in relation to the equipment rather than have you describe every piece of equipment that was there are you familiar with Doctor Gibson's report and the report that I think the technicians.

TAYLOR Yes.

McLaughlin and Wilson produced are you happy that the equipment that they're referring to is the equipment that you were using.

TAYLOR Yes.

At the time right and can I ask although you have mentioned that you were familiar with it, was it new or was it equipment that you would have been using for quite some time.

SOLICITOR Can you remember.



Yeah.

TAYLOR I think it had been actually I can't remember for sure.

Right.

TAYLOR I think it's equipment that was, it wasn't new to me.

It wasn't new to you.

TAYLOR On that for that, that wasn't the first case.

Right yes.

TAYLOR That I used it on.

Right.

TAYLOR I can't exactly remember when it was installed.

Right and so from your memory would Doctor Montague have been familiar with that equipment.

TAYLOR Correct.

Right and what about the technician Mr Shaw.

TAYLOR Correct.

Familiar with it and is this something that's deliberate and that it's simple to use or are there training courses.

TAYLOR The anaesthetic machine.

Yes.

TAYLOR Or the monitoring, there's several elements to it.

Yes, there's a Siemens patient monitor for instance.

TAYLOR Yes the Siemens patient monitor had been in the department for a number of years.

Right.

TAYLOR And they're standard to use.

Right.



TAYLOR There's no.
Right.

TAYLOR Training required for that.
Okay

TAYLOR For new doctors who come to work with us we give them
a, one hour.
Okay.

TAYLOR Overview of how to use it, the gas delivery machine the
anaesthetic machine that gives the gas.
Yes.

TAYLOR And the anaesthetic and again was a standard piece of
anaesthetic.
Yeah.

TAYLOR Delivery.
Right.

TAYLOR Equipment.
And before the operation commences Doctor I think you
may have mentioned in your statement that you checked
the equipment.

TAYLOR Correct.
Right is that normal procedure.

TAYLOR That is good practice.
Right and would the technician would Mr Shaw have had
any role in doing that or is that something that you do
personally.

TAYLOR It's double checked if you like.
Okay.

TAYLOR Technicians make sure it's plumbed in and.



Yes.

TAYLOR Technically the joints where the gas attaches.

Right.

TAYLOR But I have to check that oxygen is oxygen for instance and suction works and my bottles are filled so it's.

Right.

TAYLOR He has a role from a technical angle I have a role from anaesthetic safety.

Yes and Doctor you have, you have planned the regime that you're going to implement and the equipment that's set up. Do you have any recollection or if you want to refer to the notes how did the actual implementation of the regime match the plans that you had made.

TAYLOR Ahm in terms of fluids.

Yes in terms of the fluids.

TAYLOR I think I can't remember for sure.

Hm hm.

TAYLOR And the calculation was done on a piece of paper that wasn't left in the notes.

Yes.

TAYLOR In fact several pieces of paper.

Yes.

TAYLOR Cause we go back and calculate I have a calculation on top of my anaesthetic form.

If you, do you want to look for it it's number 10 I take it.

TAYLOR Yeah.

(Inaudible.)

(Buzzer sounds.)



Is that it.

TAYLOR

That's it.

Well perhaps Doctor the tape will cut off in a minute or 2 so before you go on to describe that to us it's 1243 and we'll change the tapes now.

**CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0176411A
INTERVIEW OF ROBERT TAYLOR ON 17/10/2006
BETWEEN 1201 HOURS AND 1243 HOURS**

Paul Kennedy A.K.



It's 1244, still the same 4 people in the same place on the same day and you're in the middle of referring to your records Doctor, if you just before you proceed if I could ask you to confirm that there were no questions asked while the tapes were being changed.

TAYLOR

That's correct.

And I'll also remind you that the caution still applies as we proceed, thank you. Now what we were looking at Doctor before you described, describe it is from volume 10 or chart number 10 of Adam's notes and it's a sort of a 3 piece document that commences, it's the anaesthetic record page 7 in that chart yes Doctor.

TAYLOR

I'm looking at the section where I did some calculations for the fluid.

Yes.

TAYLOR

His body weight was 20 kilograms.

Uh huh.

TAYLOR

His (inaudible) maintenance I've listed 200 mls an hour.

Yeah.

TAYLOR

And the deficit I've written down here is 300.

Right.

TAYLOR

And his (inaudible) blood volume is 80 mls per kilogram which is 1600 mls.

Right.

TAYLOR

So that would've been the basic fluid calculations. They asked me did the fluids I gave follow my initial plan.

Yes.

TAYLOR

And as I've said in this statement we give the first 500 mls of 1/5 normal saline over half an hour.

Hm hm.

TAYLOR

And started the second bag because we felt that we were still.



Hm hm.

TAYLOR Not we hadn't fully replaced his deficit and his first hour's maintenance, so the second bag was started at 0730 according to the record and it was given over the following hour and 15 minutes approximately.

Hm hm.

TAYLOR To 0840, 0845. During that time other fluids were administered as I've described in my records because of ongoing blood loss which was reflected in my notes according to the blood loss weight.

Yeah.

TAYLOR So did my fluids reflect my pre-operative fluid plan yes they did up until a point where at about 9, 0900 the blood loss was clearly problematic.

Right.

TAYLOR And we had to increase add additional fluids at that stage.

Yeah.

TAYLOR But in a way we'd planned that.

Hm hm.

TAYLOR We'd planned for that eventuality.

Yes.

TAYLOR But we hadn't foreseen the exact quantity of fluid.

That's understandable that would be unforeseeable.

TAYLOR We had planned the type of fluid we were going to give at each stage of the operation.

Yeah hm hm.

TAYLOR What we couldn't plan for was the quality was, was the volume of fluid.

Yeah.



TAYLOR Until we got feedback.

 Yeah.

TAYLOR From the surgical field and from our monitors.

 Yeah.

TAYLOR But I would say that the type of fluid that we were to give through the operation was as planned.

 Okay.

TAYLOR But the volume was well we'd planned to give the volume that was appropriate.

 Yes.

TAYLOR So yes I can't really answer your question yes and no I think.

 Fair enough. Well Doctor can you explain to me the actual process of administering for instance the 1/5 normal saline the number 18 does that go into the central venous line into an IV into a cannula.

TAYLOR I can't remember he does have a cannula in his left hand.

 Yes.

TAYLOR A 20 gauge cannula in his left hand and he's got the triple (inaudible) in his right, triple (inaudible) CVP line in his right subclavian, so we could've given it into his hand.

 Right.

TAYLOR We could've given it into one of the –

 - Right right -

TAYLOR - one of the central lines I can't remember.

 And you mention about the procedures that you're required to carry out and you mentioned specifically that one of those is getting a central venous line in, is giving IV access one of those procedures as well.

TAYLOR That's correct.



In which order would that have been done Doctor if you would explain that.

TAYLOR Well usually the less invasive line -
- Right -

TAYLOR - would go first.
Right.

TAYLOR And as I said I've written down that I'd no problems.
Yes.

TAYLOR Specifically with gaining access.
Yes.

TAYLOR Or any I think I've written anaesthetic (inaudible)
problematic.
That's right.

TAYLOR I assumed that the peripheral line.
Yeah.

TAYLOR Went in first.
Yeah.

TAYLOR In his hand.

Doctor I'm sure you're aware of what Doctor Sumner and others said to the inquest and there seems to have been a consensus that the quantities that you planned to give in practice were exceeded particularly in the in the early stages of the operation, can you comment on that.

TAYLOR Well my comment is that to be there.
Uh huh.

TAYLOR To have been there and to have given the fluids at the time that we did and the quantity that we did was justified there was a reason for doing what we did.
Yeah.



TAYLOR It was in keeping with our pre anaesthetic plan.

Uh huh. I note for instance that Doctor Alexander said to the inquest in his report that while he didn't take any you know exception to your plans for the management he said in the fact or in the implementation of it that a great deal more fluid was infused. I can't pretend as a lay person to understand that record.

TAYLOR Hm hm okay.

There's no point in me trying to, but these are other people who do and what they're saying is that your plans were perhaps reasonable and appropriate, but what happened in practice was that a great deal more fluid was infused than you had planned for.

TAYLOR Well I am aware of that comment.

Mm hm hm.

TAYLOR The reason I give the fluids that I gave was to me in keeping with the plan the necessity of giving the fluid up front before the surgeon started.

Yes uh huh.

TAYLOR Because I knew they were going to make him bleed.

Yeah.

TAYLOR And the reason for giving the sugar content.

Yeah.

TAYLOR That I had to give him in the way that I give it.

Yeah.

TAYLOR Was again (inaudible) and from his previous anaesthetic in Doctor Loan I have it in my report that we knew Adam could tolerate large quantities of sugar 1/5 normal solution.

Right, right.

TAYLOR In fact Doctor Loan in the anaesthetic previously I think on the 18th that month had given 300 mls of fluid.



Yes.

TAYLOR And I agree with Doctor Sumner and Alexander that any other child would not have been given that quantity of fluid.

Okay.

TAYLOR Adam was very exceptional and I don't feel that those 2 individuals really understood really understood Adam.

Right, right, right. The 300 mls Doctor that you mention Doctor Loan gave in what time period was that.

TAYLOR It was over an hour cause the anaesthetic only lasted an hour.

Okay.

TAYLOR So I don't know if he got a 100 mls in the first 10 minutes or whatever.

Yes.

TAYLOR He got a 100 mls in 15 minutes.

100 mls in 15 minutes.

TAYLOR Of 1/5 normal saline.

Right.

TAYLOR And then a 100 mls over half an hour and then a 100 mls over the next 15 minutes.

Right.

SOLICITOR And you're getting that from notes.

Yes.

TAYLOR This is a different note this is Doctor Loan's anaesthetic record.

Yes we're on the same chart on page 71.

TAYLOR The 18th of the 7th.



Yeah.

TAYLOR 18th of the 10th in fact.

Yes that was the (inaudible).

TAYLOR 18th is a month earlier.

Right.

TAYLOR And he had no recorded blood loss.

Yes right.

TAYLOR From his anaesthetic.

Hm hm.

TAYLOR So the knowledge I had.

Mm hm hm.

TAYLOR Was that Adam could tolerate very high quantities of this fluid.

Yeah.

TAYLOR Without any loss from his body.

Right.

TAYLOR And recover safely and uneventfully afterwards.

But Doctor it appears to me from that that the evidence available to you is that Adam could cope with 300 mls of number 18 solution in an hour but how does that equate to 500 mls in half an hour. See to a lay, to me as a lay person.

TAYLOR Yes.

There is no comparison.

TAYLOR Well it showed that Adam was not a normal child cause normal children shouldn't cope with 300 mls over an hour.

Okay right.

TAYLOR And so I was confident.



Yeah.

TAYLOR By the previous anaesthetic that Adam was exceptional.

Right.

TAYLOR Now I think for the operation he'd a drip up before operation so he'd no deficit.

Okay.

TAYLOR I had a deficit to deal with.

Right.

TAYLOR I'd at least a 2 hour deficit.

Yeah.

TAYLOR And then there was the hour delay so in fact it might've been more than 2 hour deficit.

Yeah.

TAYLOR So on that day I had to get going.

Yeah.

TAYLOR I had to get going. In my calculations as you could see I'd estimated 600 mls (inaudible) deficit and 200 in that hour.

Yeah.

TAYLOR Doctor Loan to my reading had only to give the hour's maintenance.

Yeah.

TAYLOR And in fact he give 300 mls in that hour safely to Adam.

Yeah.

TAYLOR He made an uneventful recovery.

Doctor I'd still put it to you and then we will move on, I think I understand what you're saying but to give 500 mls in half an hour based on the assumption that on the last operation he got I think he would've had 150 mls in the



same period then because I think he gets 100 mls in 15 minutes and then half of a 100 in the next isn't that right.

TAYLOR

Hm hm, hm hm.

So you know that this child can safely withstand a 150 mls in half an hour, in spite of there being a deficit it seems to me quite a considerable jump to assume that he can now withstand more than 3 times that in the same time period would you not accept or do you not think now that perhaps the 500 mls in the first half hour was excessive.

TAYLOR

I find it hard to accept that conclusion because we were dealing with a child who had a fairly prolonged fast in the presence of potentially low blood sugar.

Mm.

TAYLOR

And potentially, the other thing you have to remember is the procedure before had no blood loss and didn't need Adam's circulation to be enhanced.

Hm hm.

TAYLOR

In the operation I was expected to anaesthetise.

Hm hm.

TAYLOR

I had to get on with it.

Hm hm.

TAYLOR

To use that term.

Hm hm.

TAYLOR

Because I had to get ahead of myself.

Hm hm.

TAYLOR

And provide an environment where I was dealing with no deficits that these kidneys which was like a tap.

Hm hm.

TAYLOR

A tap was turned on.

Yes.



TAYLOR And I was trying to to fill.

 Hm hm.

TAYLOR You know to fill the body.

 Yeah.

TAYLOR Like a sieve.

 Yeah.

TAYLOR Water running out the bottom.

 Yeah.

TAYLOR There was a hole in the bucket.

 Yeah.

TAYLOR In crude terms.

 Yes.

TAYLOR There's a hole in the bucket, I had to get that bucket filled up.

 Hm hm.

TAYLOR And keep it full.

 Yeah.

TAYLOR No respectfully I have to say Doctor Loan didn't have to do that.

 Yes fair enough.

TAYLOR So I can't accept the (inaudible) means that mine was excessive. I accept the way I read it was that he could tolerate 300 mls safely with no deficit.

 Hm hm.

TAYLOR And without the need to make him (inaudible) to increase his blood circulation. So I stand by the fact that he had to get that fluid in jolly, jolly sharpish.

 Would it be fair to say Doctor that you as the lead



anaesthetist are busiest at the very start of the operation because you have an IV to set up once that's once you've obtained that you may be running in fluids or other drugs I'm not sure, but you did suggest that you could've connected the fluids to that once you'd achieved the IV.

TAYLOR That's right.

And I suppose something had to be connected to it or you wouldn't have been looking to put the cannula in or the line in.

TAYLOR No you can you can leave disconnected.

Okay.

TAYLOR But available.

Yes and then once that's done you're, you're proceeding to see to get a central venous line in and you've an epidural to do, so all of that is being done.

TAYLOR That's correct.

In the initial stages.

TAYLOR That's correct.

And there was a difficulty with the central venous line a number I think there were 3 failed attempts in one place.

TAYLOR Attempts yes.

And before there was a success, so that I assume had to take some time.

TAYLOR Yes.

And then an epidural, so am I right in suggesting that that is the probable order.

TAYLOR I can't remember.

Okay. Is it is it possible Doctor that what happened in practice is that you set up the intravenous line and the fluid was connected to it and you're busy with your other procedures and half an hour later you see that 500 mls has run straight through and you didn't and you didn't plan to give that quantity of fluid that quickly but you're honest



and you record it on the notes anyway, but were you shocked to see that that had happened or was that a plan.

TAYLOR I can't remember how I felt 11 years ago.

Yes.

TAYLOR To be honest with you, but the fact that I was doing other things wouldn't have distracted me from such an important element of Adam's care, so I would discount that as a possibility. I would have been taking, because I've got my hands scrubbed in I presume doesn't mean I'm not aware.

Yes.

TAYLOR Of other factors and my assistants would also have made me aware of them if I was unaware.

Hm hm.

TAYLOR I think there was a deliberate need that we felt had to be achieved right away as I've described. There's another thing going on here I do, have done and still do a lot of resuscitation of sick patients who are dehydrated and (inaudible) meningitis and the like.

Yes.

TAYLOR And it is common practice to give 20 mls per kilogram body weight of fluid.

Hm hm.

TAYLOR Instantly, instantly.

Yes as a bolus.

TAYLOR So I can't accept giving 500 mls his 20 mls per kilo fluid bolus to him, you're right the term bolus.

Hm hm.

TAYLOR Is basically as quick as we get it in.

Mm.

TAYLOR And that may mean a doctor and nurse plunging, plunging it in, now this obviously is to a patient who's ill.



Yeah.

TAYLOR So 400 mls of fluid can be given and is given to a very large number of patients everyday over 5, 10, 15 minutes without and I would say it's saved their lives.

Mm.

TAYLOR So to me giving 400 mls of solution to a child who's been dry, the other thing to remember is I'm not sure if your experts have told you this before but every anaesthetic drug drops the blood pressure.

Right.

TAYLOR Sodium thiopental which we were using at that time is well known.

Hm hm.

TAYLOR To vaso dilate the body or increase the blood capacity of the body, in fact the story about thiopental is available at the start of the second world war and at Pearl Harbour it was used to treat a lot of the shocked and burnt GIs and the story goes that there were more Americans killed by thiopental.

Right.

TAYLOR Than by the Japanese because its dramatic ability.

Hm hm.

TAYLOR To lower the blood pressure vaso dilate the circulation is being known for decades.

Hm hm.

TAYLOR So when I give this anaesthetic to a child who I feel who the evidence suggests is already dehydrated who we need to replace the deficit get that maintenance in for this hour and make sure that we're actually ahead of ourselves before the surgeons get going.

Hm hm.

TAYLOR And I didn't know how long I was going to be getting this central line, so to give it the surgery could've started



within half an hour.

Mm.

TAYLOR The fact it was I think nearly 8 o'clock.

Hm hm.

TAYLOR By the time the surgery, I wasn't to know that.

Mm.

TAYLOR It was unpredictable, so I would've wanted I feel I would've wanted to get going with that fluid get that pushed in, I knew that his body was capable of taking 20 mls per kilo plus another 20 mls per kilo which we often had to give to patients at resuscitation, so 400 to 800 mls of fluid can be given.

Right.

TAYLOR That's 2 fluid boluses.

Right.

TAYLOR Is frequently given to patients.

And would that be, would that apply to a 4 year old as well as to an adult.

TAYLOR Because it's based on body weight.

Okay.

TAYLOR So it's 20 mls.

Okay.

TAYLOR It's not a set volume.

Yes.

TAYLOR Set by the body he was 20 kilos 20 mls per kilo is 400 mls.

Yeah.

TAYLOR That's your first bolus in, you come back and reassess so that 500 would've been running it came in what do we do



now well look where are we in terms of fluid in terms of blood pressure in terms of everything, his blood pressure was 85 at that stage that's his blood pressure mark there and I would've said get another bag going.

Hm hm.

TAYLOR And today I feel that's still justified.

Right. Doctor when you mentioned the 20 mls per kilo twice as a bolus for resuscitation which fluid would you be using.

TAYLOR Can be given twice.

Can be given twice.

TAYLOR Any fluid you can get your hands on can be given.

Including number 18.

TAYLOR It's usual to give a salt based solution, but to me it's dependent on the type of fluid the person's lost, so in other words if you've been vomiting and diarrhoea.

Yes.

TAYLOR Which is the common cause of dehydration.

Yes.

TAYLOR You would've lost a lot of salt from your body.

Okay.

TAYLOR So you should get a salt solution.

Right.

TAYLOR As I said in my pre-operative plan for Adam.

Uh huh.

TAYLOR We had to replace urine with urine.

Yeah.

TAYLOR Water with water, salt with salt.



Right.

TAYLOR The type of fluid, the type of fluid and the quantity of fluid in our plan.

Right.

TAYLOR Had to be matched by what we give (inaudible) and I feel we did match that. Now obviously the second bag didn't go as quickly.

Hm hm.

TAYLOR It went over the next hour and 15 minutes.

Yes yeah.

TAYLOR So there was a need to get the initial bolus in, I accept it was almost a bolus.

Hm hm.

TAYLOR It's not as fast as a bolus.

Hm hm.

TAYLOR A bolus to me is 5 minutes.

Right.

TAYLOR We give it over 30 minutes which to me is, is not shocking.

Yeah.

TAYLOR It's not surprising, I'm not surprised by that.

Right.

TAYLOR I can see why other people who haven't anaesthetised a child like Adam would feel it's unusual.

Right.

TAYLOR I would, I would not give that to a child other than Adam.

Well then Doctor Sumner and Alexander are of the opinion that what you gave was more than what you planned to get. Now is your reply to that Doctor that they



are wrong or that that is true but it was appropriate to exceed the initial plan in this situation.

TAYLOR Well the deficit plus the maintenance I've written down as 500.

Yes.

TAYLOR For the first hour.

Yes.

TAYLOR But in fact as you can see by my statement I probably under-estimated the deficit because I now feel it's more like 400 or more than 400 because he had 2 hours at least of more fluids.

Uh huh.

TAYLOR So I obviously wrote that down at the start of the anaesthetic but on later retrospection I feel that that's justified as a 400 deficit and I probably looked at that and said look we've given 500 but we're still probably behind lets get the other 500 going but not as fast.

Mm.

TAYLOR So I can't comment on Doctor Sumner's and Doctor Alexander's reasons for saying what they did except to feel that I obviously did give the fluid over half an hour honestly and intentionally, I recorded it as such, I asked for a second bag I think I asked for a second bag to be erected and therefore it was a deliberate act.

Right.

TAYLOR I can't explain really but feel –

- Mm -

TAYLOR - that it wasn't.

And you have already explained Doctor that the monitoring of the fluids is not a thing that you decide to do every 5 minutes or something it's a continuous -

TAYLOR - (Inaudible) -

- print out or display right.



TAYLOR I chose not to monitor his blood pressure intermittently with a cuff, I chose to put an arterial line in which allows a constant beat to beat blood pressure.

Right okay.

TAYLOR So there's no gaps in his.

Right and when you say that the monitoring is continuous what parameters are you talking about there for the relevant monitoring in relation to fluids.

TAYLOR Beats per minute it's the heart rate.

Right.

TAYLOR Ahm 0700 heart rate, blood pressure which is invasive blood pressure from the arterial line, CVP which was inserted about 7.45.

Yeah.

TAYLOR Temperature and oxygen saturation.

Right.

TAYLOR Which is a 100 per cent throughout.

Right so that monitoring is continuous.

TAYLOR It was all continuous monitors yes.

Right, right and I understand that and my recollection is from your deposition in relation to CVP then if we could focus on that initially you said there was no cause for concern whereas Doctor Sumner would reply to that that he believes that a CVP of 17 which was the initial one was in fact cause for concern right at the very outset, can you explain.

TAYLOR Yes as I've written in my notes I wasn't expecting a CVP of 17.

Hm hm.

TAYLOR Like Doctor Sumner would've expected.

Yeah.



TAYLOR 8 to 12 of a patient on a ventilator, so I knew there was something else and in fact we'd re-ze...., we went, you have to do a zero level.

Yes.

TAYLOR So the zero was done, we got this reading and there's 20 so that's about 17, we re-zeroed it.

Yeah.

TAYLOR Just before 8am to make sure that the zero had been properly set because the table and the monitor can have unequal heights.

Uh huh.

TAYLOR You're only talking about centimetres of water.

Yes.

TAYLOR So a few centimetres here and there can make a crucial difference.

Uh huh.

TAYLOR So we re-zeroed it to in fact ensure that it was a true reading. So I think I've written in my statement that I was concerned that wasn't false and I was able to propate (inaudible) subclavian (inaudible) and inside of going next to the heart I was able to squeeze it.

Right.

TAYLOR From the corner of his neck.

Right.

TAYLOR The jugular.

Uh huh.

TAYLOR And during that I also saw the trace flicker upwards, so in other words I was able to –

- Right -

TAYLOR - with this you get a continuous trace of the venous



pressure.

Yes.

TAYLOR And I was able to affect the venous pressure by squeezing the neck, so I knew it had gone up.

Uh huh.

TAYLOR Instead of going down, so it's probably up against a vessel wall.

Uh huh.

TAYLOR And it wasn't a, I've written down I didn't regard it as a reliable.

Uh huh.

TAYLOR Indicator of his fluid volume. Now Doctor Sumner says he would've been concerned that it was 17 reflecting that he had too much fluid in his circulation.

Yeah.

TAYLOR But in fact he was still dry at that stage he was still behind there was no evidence and if it had of been the response to our first fluid bolus it would've come down subsequently. So we chose to accept that being in a false position and CVP on its own is not a reliable indicator of the fluid in the circulation.

And what other parameters would you want.

TAYLOR The heart rate, the blood pressure.

Right.

TAYLOR The general look at his veins are his veins dilated or shrunken.

Uh huh.

TAYLOR Does the wound look moist.

Yeah.

TAYLOR Or dehydrated, so it's a useful indicator taken in conjunction with the other signs.



Hm hm.

TAYLOR But on its own as you can see it's absolutely useless cause it depends where the tip of the catheter is.

Well how much does it depend on the position of the catheter tip.

TAYLOR Massively, Adam had previous surgery in his neck.

Yes.

TAYLOR For what's called (inaudible) lines or surgically placed central lines.

Yes.

TAYLOR When he was a baby.

Right.

TAYLOR And this was to ensure adequate drips.

Yes.

TAYLOR Because he was needing a lot of drips for his dialysis and checking his blood.

Mm.

TAYLOR And when a surgeon performs a central line he actually ties off.

Yes.

TAYLOR The vein.

Right.

TAYLOR And that vein's lost forever.

Yeah.

TAYLOR So when I say I'd 3 attempts at the neck I was hoping as I can do sometimes to get below the level where the surgeon has blocked the vein.

Yes right.



TAYLOR Sometimes you can get the vein further past that.

 Yeah.

TAYLOR And I was trying to do that because it's less dangerous to
 (inaudible) neck.

 Okay.

TAYLOR As attacking their chest (inaudible).

 Sorry.

TAYLOR So we'd always attempt the least invasive.

 Yeah right.

TAYLOR The least complicated.

 Right.

TAYLOR Method of gaining central venous access.

 Yeah.

TAYLOR I tried the least knowing that I was possibly not going to
 succeed.

 Hm hm.

TAYLOR But it was worth a try.

 Hm hm.

TAYLOR I was unable to get into the vein in the neck.

 Hm hm.

TAYLOR When I got into subclavian it also probably meant that
 there was obstructions in his –

 - Yes -

TAYLOR - (inaudible) veno cavian which is the main vein coming
 from the neck inside his chest and the tip of the catheter if
 we went up against this obstruction.

 Right.



TAYLOR They knew there was an obstruction there.

 Hm hm.

TAYLOR It was not surprising to me that we would be getting such a high reading because this does not reflect a true picture of the blood returning to the heart. So that was useful as a zero point but it was of no value to get a picture of the amount of fluid in his circulation.

 Well Doctor –

TAYLOR - Potentially dangerous to use that as a method.

 Yeah. In your experience then of other operations would the catheter have taken an unexpected course.

TAYLOR Yes.

 Right and would you have seen a CVP of 17 initially.

TAYLOR In other cases.

 In other..., of a 4 year old child.

TAYLOR I would've seen abnormal catheter readings and when we do a confirmatory test.

 Yes.

TAYLOR We can, we can reason why.

 Mm.

TAYLOR We can justify why that's (inaudible).

 Right and would –

TAYLOR - It's commonplace in children not to get the tube, it's a blind procedure.

 Yes.

TAYLOR We can't direct the catheter.

 Yeah, yeah.

TAYLOR It's in the hands of fate.



Right.

TAYLOR Where that catheter ends up and we can do nothing to make it go.

Okay.

TAYLOR Where we wish it to go.

Right.

TAYLOR But it's still a useful line because it allows us to get it's still, it was still a useful line.

Hm hm.

TAYLOR But we couldn't rely on it.

Right.

TAYLOR The way we might've been relying on it if it had not been up in the neck.

Right well.

TAYLOR And I've written that.

You said that the normal CVP that you would expect needs to be at the 12 so you're 50% above that or more and you're at 17, if you take the 8 figure you double it, would you expect to get an increase of that magnitude as a result of the catheter going into a blind alley so to speak.

TAYLOR (Inaudible.)

You're not surprised at that.

TAYLOR I knew where it was.

Right.

TAYLOR I'd a good idea of where it was when I inserted it.

Hm hm.

TAYLOR And I tried to re-zero it but I knew then that –

- Hm hm -



TAYLOR - we'd have to proceed with the catheter in a less than (inaudible) place.

Hm hm. So later the pressure goes up to 21.

TAYLOR Yes.

Or in that region.

TAYLOR Up 20 yes.

Just up at 20 there and would you have seen that figure.

TAYLOR Yes.

In other children.

TAYLOR Well as I said in my statement it is our duty in fact the surgeons would ask us to push the CVP.

Mm.

TAYLOR It's a necessity. As I said before and I mean I have to be careful how I describe this because it's essential that we increase the fluid in Adam's body.

Yes I appreciate that.

TAYLOR But we have to do it in a controlled manner.

Yeah.

TAYLOR And I did that.

Yeah.

TAYLOR Because I was taking all his monitoring all his parameters looking at the surgical field into this continuous assessment.

Yeah.

TAYLOR Not every hour, half hour.

Yeah.

TAYLOR But all the time.



Yeah.

TAYLOR And your decisions are based on what you see and what you experience and I was, wanted to push this higher but obviously you have to set limits and although the CVP would've went up by 3 or 4 points the other parameters looked as if we were doing okay with that in this case.

So is it your position Doctor that the CVP at the end of the catheter is being accurately measured 17 is an accurate figure.

TAYLOR That's what the electronic monitor is telling me.

Yes but it would've been different if it had routed itself nearer the heart.

TAYLOR Absolutely.

Right and whenever the CVP rises to 21 that's an accurate figure at the end of the catheter.

TAYLOR Yes.

But it would've been a different figure if the catheter had routed itself elsewhere.

TAYLOR Absolutely.

Right so you're not suggesting that there was any defect in the in the monitoring or in the measurement in the transducer.

TAYLOR No.

The monitoring equipment to (inaudible) no so we have an accurate figure. Again Doctor this is a matter for the experts but I have spoken to a number of doctors about this and their information and evidence to me is that it's very, very difficult if not impossible to achieve a figure of 20 millimetres of mercury in a child that to see that anywhere in the body is highly alarming and I think Doctor Sumner's view was that he has never seen it and he wouldn't expect ever to see it and his explanation is because the veins are so distensible in a child that pressure evens itself out through the venous system.

TAYLOR Hm hm.



What would your reply be to that.

TAYLOR Well I agree with Doctor Sumner on that occasion. I think if the central line is next to the heart.

Hm hm.

TAYLOR And is measuring the central venous pressure.

Yes.

TAYLOR It should be no more than 15, I have seen 20s but they've been in children with severe cardiac disease and the like.

Okay.

TAYLOR Abnormal circulations.

Right.

TAYLOR And Doctor Sumner does cardiac cases.

Yes.

TAYLOR I'm sure he's seen these type of cases. But to go back to my previous statement this was not central venously placed catheter it was in the neck.

Uh huh.

TAYLOR It was up against abnormal dead end road.

Uh huh.

TAYLOR It's down a dead end street.

Yes.

TAYLOR Where the pressure might reflect in some way what's coming back to the heart, but it's not reliable. But it might reflect some drain off so we know that we can use it to get access to the circulation.

Hm hm.

TAYLOR And to use it as a relative measure but not to rely on it. When I say that I did not rely on the CVP.

I appreciate that, but again I have been told that in the



figure of 20 is basically twice almost twice what you would be expect at the heart if you're looking 8 to 12, so we'll say that you're in the region of double the pressure and what I'm told is in the child because the veins are distensible it's impossible if the blood volume is normal or near enough normal it's impossible to get an increased central venous pressure of that magnitude in a child no matter where the catheter is placed.

TAYLOR Well your figure of double is is a little bit subjective.

Yeah.

TAYLOR Because what we aim to do is push it to 15 or 16.

Okay.

TAYLOR So we can push the CVP 15, 16, 17.

Right.

TAYLOR (Inaudible) looking for a normally placed.

Yes.

TAYLOR CVP which is next right next to where the blood is returning to the heart.

Hm hm.

TAYLOR And I have pushed CVPs to 16, 17 at the surgeons (inaudible) team.

Mm.

TAYLOR As a team effort to try and get this kidney working.

Hm hm.

TAYLOR So we're up to the near maximum.

Hm hm.

TAYLOR 16, 17 is what I would like to do when I know the catheter is next to the heart.

Hm hm.

TAYLOR Now we're in a blind alley.



Hm hm.

TAYLOR We know that, the information when I had inserted this and the start of the monitor was he was in an abnormal position.

Hm hm.

TAYLOR Therefore the 5 to 6 centimetre reading difference that I was giving from where I would have expected was explainable by the fact that it wasn't in the central veins, it was up a dead end road.

Right. Do you think that any part of that be due to the child's position on the operating theatre, my understanding is if you tilt the head down up –

TAYLOR - (Inaudible) -

- that will automatically under pressure.

TAYLOR I think Adam's head was turned to one side.

Yeah.

TAYLOR Which would tend to (inaudible) the relatively soft veins in the neck. It's usual because the tubes and things coming out of a child's face not to leave them in line with the body.

Right.

TAYLOR But to rest them so that they –

- Yeah -

TAYLOR - don't end up with a pressure sore in one point and the padding rests the head, so yes we can kink the vessels.

Hm hm.

TAYLOR In the neck.

Right.

TAYLOR By turning the head.

But would a differential in height have had a bearing in it



apart from the kinking of the arteries.

TAYLOR That's -

- My understanding is -

TAYLOR - that's why we changed, we checked the zero point twice.

Yes right, right.

TAYLOR As you can see the zero point was checked.

Okay so you had the transducer isn't attached to the table
it's attached to something it doesn't move with the table.

TAYLOR We eliminated the possible artefact, we eliminated the
possible causes.

Yeah.

TAYLOR Of, of artefact of reasons why.

Right.

TAYLOR This wasn't a genuine pressure reason and when I felt it in
his neck and -

- Yeah -

TAYLOR - and we could (inaudible) -

- yeah -

TAYLOR - directly I was completely satisfied that I was not
measuring the central venous pressure.

Right.

TAYLOR I was measuring a dead end road.

Uh huh.

TAYLOR That had obstructed itself and therefore was in continuity
with the heart.

Yeah.

TAYLOR But not.



Right.

TAYLOR Not equal to.

Yes. Well Doctor I don't want to just leave this yet because really as far as our investigation is concerned this is fairly fundamental the evidence that we have been given by our experts.

TAYLOR Hm hm, hm hm.

It's the crux of everything to a degree because what I am being told is that the mistake was given too much fluid too quickly and that can happen, but what should have alerted you and your colleagues to that mistake and therefore allowed you to compensate to stop it happening any further was the CVP rating, so I'm being told there's too much fluid going in too quickly and the CVP proves that because it's very, very high and that Doctor Taylor would have seen 17 increasing to 20 and that is telling him there is a problem here and my understanding is Doctor and stop me if I'm getting this wrong, my understanding is that your reply to that is that a figure of 17 to 20 is not of a necessity an indicator of too much fluid. It can be an indicator of the catheter being in the wrong place.

(Buzzer sounds)

Right we've 2 or 3 minutes. Am I, is my understanding of your response to that correct.

TAYLOR I agree with what you're saying that if this intravenous tip is near the heart.

Yes.

TAYLOR And unobstructed.

Yes.

TAYLOR Unobstructed continuity with the right atrium.

Yeah.

TAYLOR Which is the actual pressure we're looking to measure.

Yeah.

TAYLOR Then 17 would have alerted me to a problem with his



fluid. I have to agree with you on that yes.

Right.

TAYLOR

And the experts are correct. What they have failed in my view to take account of is the fact that on subsequent x-ray we saw the line wasn't next to the heart and although I didn't do an x-ray at the time I was satisfied that this tip was not giving me a measure of a central venous pressure.

Right, right well I think I understand what you're saying. It's 1327 on the clock and we'll terminate this interview at this point.

**CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T017614A,
INTERVIEW OF ROBERT HENRY TAYLOR ON
17/10/06 BETWEEN 1244 HOURS AND 1327 HOURS**

Paul Kennedy A/E



PA 5

Right we're ready to continue with these interviews and the date is still the 17th of October 2006 and the time with the clock on the wall is 1508. W we're at an interview room in Grosvenor Road Police Station in Belfast and there are 4 of us in the room. My name is Billy Cross I'm a Detective Sergeant in MIT Gough and I've another officer here.

Denise Graham, Detective Constable also from MIT in Gough.

Doctor can you give us your name please.

TAYLOR Doctor Robert Henry Taylor.

Thank you and we've a solicitor present.

SOLICITOR Gary Daly.

Right Doctor we were continuing to interview you on the same matter as before so we don't need to explain that however before we proceed I have to caution you again and tell you that you do not have to say anything but I must caution you that if you do not mention when questioned something which you later rely on in court it may harm your defence. If you do say anything it may be given in evidence and again that means that you are not obliged you don't have to say anything in response to our questions but if it went to court and you tell the court something that you could have told us and didn't.

TAYLOR Yes.

The court may take an attitude to its reliability and anything you do tell us may be given to a court in evidence.

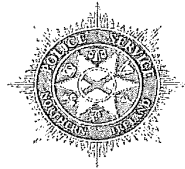
TAYLOR I understand.

Doctor at the end of this interview I should have said earlier but we will give you a form or do we still do that now.

Well no because you're getting a copy of the tapes.

Sorry.

As we're going along now.



The procedure has changed from I last interviewed and there's 3 tapes so we used to have to give you a form to tell you about the notes but your solicitor is actually getting a tape as we go along.

TAYLOR

Yes.

So we don't need to go down that route. Doctor we had in the initial interview gone through your statement and then covered I suppose the preparation for the fluid management.

TAYLOR

Yes.

And for (inaudible) and then dealt with my questions in relation to central venous pressure and I want to move on from that. If we could move on then to the issue of electrolytes now my understanding is that electrolytes cover a number of things but the electrolyte that seems most relevant here is sodium and it would appear that a sodium reading was obtained the night that Adam came into hospital.

TAYLOR

That's correct.

On the 26th and it read 139 I think.

TAYLOR

That's in my statement is it.

Yes.

TAYLOR

Do you want me to check with the notes.

Yeah if you (inaudible) chart 10.

TAYLOR

That is my recollection that it is 139.

Yeah.

TAYLOR

I'm looking at his admission on the 26th blood results would be.

I think they could possibly be in the other chart.

TAYLOR

(Inaudible) be a yellow one that's (inaudible).

That's 94.

11th of 95 we're looking for.



TAYLOR It may have been just a (inaudible) result and 26 and that's post transplant, it may have been (inaudible). I can't I'm looking at (inaudible) but it seems to stop in 1995.

 It is a result on a small slip.

TAYLOR It may have been a verbal.

 Yeah.

TAYLOR I may have just been verbally told of that but I have written that down.

 Yes I think it is commonly agreed that that was the level, but it would have been nice to have seen.

TAYLOR (Inaudible.)

 Yeah.

TAYLOR I might have written (inaudible) charts.

 Hm hm (inaudible).

TAYLOR (Inaudible) before the transplant. Right that's his admission for renal transplant the 26th 11 30 pm that's.

 Hm hm there's the previous date it's not (inaudible) I understood that's signed by O'Neill isn't it who is now in Sligo I think now I thought he was involved in recording the actual result.

TAYLOR Right 26th of the 11th 95.

 Yes.

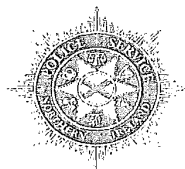
TAYLOR 11 pm haemoglobin sodium 139.

 And that is signed by O'Neill (inaudible).

TAYLOR I couldn't say.

 And Dr Cardwell she took the test, right is, right just for our future reference there's a mistake these are out of sequence, these (inaudible) but that's page 144 -

TAYLOR - Okay it's before that -



- there's page yes -

TAYLOR

- yes -

- they are out of sequence.

(Inaudible.)

That's fair enough right yes so we -

TAYLOR

- That's 11 pm that's 11 30.

Yes we can confirm then that the sodium level at 11 pm on the 26th was 139 and Doctor Savage I think if we can go to page 133.

TAYLOR

Yes.

Doctor Savage my understanding is he has recorded that he wanted the blood test repeated before the operation.

TAYLOR

Electrolyte (inaudible) should be repeated.

Yes.

TAYLOR

First thing in am.

First thing in the morning then right and would you have been aware of that Doctor before the operation started.

TAYLOR

Yes, yes.

Right and the reality is of course that the operation proceeded till about 9 30 before there was a repeat of the electrolytes.

TAYLOR

Yes.

Can you explain to me how that happened.

TAYLOR

Yes as we've discussed before the induction of anaesthesia and placing the lines and tubes and drips and.

Hm hm.

TAYLOR

Epidurals take priority.



Yes.

TAYLOR There's a priority to be set and at that time I need all the experienced personnel with me to be able to monitor everything about Adam including his fluids in particular. To have done a blood test would have meant absenting a member, a crucial member of my team.

Right.

TAYLOR In 1995 we had a blood gas machine that would do an approximate.

Hm hm.

TAYLOR Electrolytes.

Right.

TAYLOR But not a reliable laboratory sample.

Right.

TAYLOR There's always been question marks between our blood sample monitor analyser and the laboratory. For instance nowadays a nurse can do a blood test next to theatre in the ICU the machine is in the ICU.

Yes.

TAYLOR Which is adjacent to theatre.

And that's the blood gas machine.

TAYLOR The blood gas machine.

Right.

TAYLOR Which would give us approximate haemoglobin.

Right.

TAYLOR And approximate electrolyte.

Hm hm.

TAYLOR In those days I'm talking about 1995 the machine's not as straight forward technically it required an anaesthetist.



Right.

TAYLOR Or a, sometimes I think one of the medical technicians.

Hm hm.

TAYLOR Would be sent to do a blood test.

Right.

TAYLOR But obviously I couldn't spare anybody until 9 30.

Hm hm.

TAYLOR That's the soonest that it would have been safe.

Right.

TAYLOR To leave Adam.

Right.

TAYLOR For a member, for a member of staff to be sent away from theatre so it was done as soon as I could justify it.

Right and if, say you'd had another member of staff who you could have spared how long would it have taken to process that through the blood gas.

TAYLOR Approximately 5 minutes.

Right.

TAYLOR To send the lab, that's the lab sample.

Yes.

TAYLOR Requires blood to be sent in a bottle, a porter to be called.

Yeah.

TAYLOR The lab to be phoned.

Yes.

TAYLOR On a busy, early Monday morning.

Right.



TAYLOR And with the portering system.

Yes.

TAYLOR As it was.

Right.

TAYLOR In the Royal it would have taken over 30 minutes to organise that.

Okay.

TAYLOR Somebody sitting at a phone.

Yes.

TAYLOR Phoning.

Hm hm. So at the start of the operation you have other priorities but you will, you were aware that the blood or that the electrolytes hadn't been done.

TAYLOR Yes.

But you, your priorities don't include it sufficiently far up the list anyway at that point.

TAYLOR It was a, it was a priority but not.

Yes.

TAYLOR Against the safety.

Yes.

TAYLOR Of Adam's circulation and breathing.

Okay.

TAYLOR And other elements yes.

Okay and you didn't want to lose a member of staff until 9.30 you say that's the first time you could afford -

TAYLOR - I think that's when I put 9.32.

That's correct yes.



TAYLOR Was when the time that's entered as taking, I have it in my deposition.

Right in your experience Doctor how frequently would you have been in a similar situation in other operations, you know.

TAYLOR I would call this routine, this is a routine happening.

Right.

TAYLOR To these, set a list of priorities.

Yes.

TAYLOR And a blood test would be.

Right.

TAYLOR Down the list of priorities.

Right.

TAYLOR If that's what you mean.

Yes it is so your, your reply is that to start an operation in this situation where the blood test hasn't been done prior to it and has to be delayed for 2½ hours we'll say in this case if we start at 7 that is not unusual.

TAYLOR The complexity of this case I can't, I can't account for the 2½ hours delay but clearly we were doing, we were very busy.

Hm hm.

TAYLOR And that's the first break we got.

Right.

TAYLOR Because you realise to break means to leave a member of staff on their own.

Hm hm.

TAYLOR And there's always, you need all the hands, all hands on deck as it were up until that time.

And you have said Doctor in your deposition in 96 that



there was no reason to believe that there would have been a change in electrolytes between 2300 hours and 6.45 do you recall saying that.

TAYLOR I, yes and that would have been because our pre-operative fluid plan was based on the principal that we replace water with water, salt with salt and blood with blood so we had planned to replace Adam's urinary output with the right type and quantity of fluid, replace his blood loss with the right type and quantity of fluid and replace the salt with salt and that was met by our inter-operative plan or ongoing plan met our pre-operative plan.

Hm hm.

TAYLOR Closely.

Right I can understand maybe why there's no reason to change the planning but you've said that there was no reason to suspect or to believe that there would have been a change in the electrolytes over that period and that you're saying that you wanted to replace salt with salt but you could, can you do that if you don't know what the salt loss has been.

TAYLOR Well we know what the salt is with Adam, he's had 4 years of -

- Yes right -

TAYLOR - losing 200 mls an hour out of his kidneys.

Yes.

TAYLOR We know what the salt content is of his urine.

Right.

TAYLOR It's been, it's been looked at over a number of years.

Yes.

TAYLOR His urinary salt had been measured not sure if that's the place or somewhere else but we knew that the urinary salt was of the order of 29 I think to 52.

Yeah.

TAYLOR So past thirtyish millimoles per litre of sodium in his vein.



Right.

TAYLOR And we were giving exactly the same (inaudible) that contains 30 millimoles of sodium per litre.

Hm.

TAYLOR So we knew that after his dialysis when his bloods were monitored that he was in a situation that he was losing sodium, he couldn't handle a sodium load neither was a, (inaudible) give him high concentrations of sodium as I would have given to another child and as your experts are suggesting.

Hm hm.

TAYLOR We could give to another child Adam couldn't cope with that.

Right.

TAYLOR Sodium load his kidneys don't, didn't have the ability to handle a salt load, he could have been salt poisoned.

Right how do you know that Doctor.

TAYLOR Because that's his condition (inaudible) nephrotic syndrome, he passed 200 mls an hour for 4 years of dilute urine containing 30 millimoles of sodium.

Right.

TAYLOR That's the key, the key fact that perhaps your experts have really failed to grasp and I have to try and explain to.

Hm hm yeah.

TAYLOR Yourself is that Adam I had researched his case extremely closely and taken advice from Dr Savage before we started.

Okay.

TAYLOR I had anaesthetised him before as a baby in actual fact.

Right.

TAYLOR My colleagues had anaesthetised him, we understood



Adam to pass large quantities of low sodium urine we therefore knew he couldn't cope with normal sodium containing fluids.

Right.

TAYLOR It would have been catastrophic for him, but his body unlike ours and other children couldn't concentrate sodium.

Okay.

TAYLOR Couldn't handle sodium concentration.

Right so to go back to this quote from your deposition, you're saying there was no reason to believe that the electrolytes would have changed so are you starting the operation on the assumption that his sodium level is 139 millimoles per litre.

TAYLOR Well not exactly because we know from previous, I had researched his previous blood tests, pre and post dialysis and it did vary.

Hm hm.

TAYLOR Anywhere between 139 for instance in 1992 different dates going between zero, there was one stage when his sodium was actually 124 I believe I had researched that and you would have known that 124 in 1995, June 6th, the 8th day of June he had a sodium recorded of 124.

Hm hm.

TAYLOR So I knew Adam did vary but by and large as I have looked, as I had scanned these results, by and large the sodium stayed approximately 130 to 140 with an odd if you like.

Hm hm.

TAYLOR Rogue result I knew that I would have been aware of that.

Hm hm.

TAYLOR So generally I could be safe in my assumption that Adam did various sodium, could tolerate there was an element of safety in my view.



Right.

TAYLOR That he could, appeared on evidence to be able to tolerate swings in his sodium, didn't come to any harm.

Hm hm.

TAYLOR But as a rule didn't vary widely certainly not in the recent past.

And then -

TAYLOR - 1995.

If there's a safety in assuming that why would Doctor Savage have said to repeat these in the morning.

TAYLOR Well like all doctors we like our blood tests, we like our numbers it's a, it's a fact it's something that we can prioritise to Doctor Savage that was a priority for him.

Hm.

TAYLOR But in the presence of inducing an anaesthetic with all the priorities, the other priorities that I had.

Hm hm.

TAYLOR A priority to one doctor is not necessarily a priority to another doctor.

Right, right and then he, I can understand that because he's a nephrologist you're an anaesthetist and yet Doctor Sumner is an anaesthetist and therefore I would have anticipate would have similar priorities to yourself.

TAYLOR Hm hm.

And his comment is that Adam had been dialysed overnight and the measurement of electrolytes is mandatory after that so you know he's taking a different view.

TAYLOR Yes.

That the fact that dialysis had taken place it isn't safe to make any assumptions now it's mandatory to do the test.

TAYLOR It's mandatory, it's mandatory when the child is awake



and not undergoing a procedure but you give that child an anaesthetic.

Hm.

TAYLOR And I would be up in court with respect charged with serious professional problems if I had left the child unsupervised and improperly.

Right.

TAYLOR Monitored.

Right.

TAYLOR While a member of staff went to do the blood test, I can't explain it any other way so.

No right fair enough and I understand your reply to that.

TAYLOR I think Doctor Sumner perhaps is speaking about the ideal situation where you have enough staff to do a (inaudible) so.

Right.

TAYLOR Perhaps he wasn't aware of my situation at that time where I had to have my staff to hand to ensure Adam's safety.

Right so Doctor my understanding of your reply to this whole issue is that number 1 you were aware that there wasn't a recent sodium level, you knew that the electrolyte -

TAYLOR - I had requested one the night before -

- yes 11 pm you knew that but as the operation commenced you knew you didn't have a result that morning, you would have liked to have had a result, you knew that Doctor Savage would have liked to have had a result. The reason you didn't get the result is that there were other things which you needed to do and in your professional judgement they took priority. Until they were done you were not going to seek an electrolyte test and once they were done and you could spare staff you then took the blood test is that a fair summary of your -

TAYLOR - well -



- response.

TAYLOR Can I add one element to that.

Certainly, certainly.

TAYLOR You're right I agree that that's what I've said I agree to it, the one element I would like to add to that.

Right.

TAYLOR Is that we had knowledge that his sodium didn't vary.

Fair enough yes.

TAYLOR And I was not doing anything in my view, in my view that would have altered his electrolyte balance in other words I was giving the right type and quantity of fluid -

- Yes -

TAYLOR - to maintain a normal.

Right.

TAYLOR Blood electrolytes.

Hm hm.

TAYLOR In my view.

Right.

TAYLOR So that, I think that has to be in the statement that you've just.

Yes I accept that.

TAYLOR Somewhere.

Yes, is it, is it possible Doctor that there was another factor here that was different to everything that had preceded it in that there's an operation due to start at 6 am, 7 am in the morning and Adam's normal feeding regime was discontinued because as you explained earlier you didn't want -

TAYLOR - That's right -



- food in his, in his stomach.

TAYLOR Stomach that's correct.

And therefore he goes to clear fluid which is dioralyte which my understanding is is this (inaudible) solution same thing.

TAYLOR It's the same, concentration of sodium.

Right and overnight he received 900 mls of dioralyte, is it possible that that could have reduced his blood sodium.

TAYLOR Ahm I'm not aware of 900 mls is that do you want me to check that.

Yes, yes certainly.

TAYLOR I was able to talk in partial answer to that as I look for this I was able to talk and discuss it with his mother and speak to Adam and there was nothing in his behaviour or temperament or other when I examined him for instance.

Yeah.

TAYLOR I didn't pick up anything that could have led me to that conclusion because when your electrolytes become unstable and you're conscious.

Hm hm.

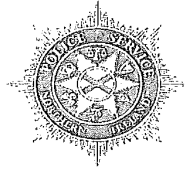
TAYLOR You would perhaps note something about the patient's.

Hm hm.

TAYLOR Physical well being and that wasn't noteworthy (inaudible). So the answer when I examined him I wasn't aware and wasn't suspicious of the fluid causing a pre-operative hyponatremia as you suggest. Again to me in my calculations he was receiving the same type of fluid as he was losing.

Yes.

TAYLOR So I think my answer (inaudible) checking the volume of fluid I think you're right cause he was approximate, every night he received approximately I think it was 1500 mls.



I think it is yes that's right.

TAYLOR Of fluid he received 900 mls therefore I had to give him, 952 in fact.

Okay.

TAYLOR So therefore I had to give him his nocturnal.

Hm hm.

TAYLOR 1500 mls.

Hm hm.

TAYLOR Within my time span I think that's a factor that also contributed to my initial 500 ml that you questioned at the start.

Yeah but Doctor is it possible if you, if a child of his weight receives 900 mls or thereabouts of dilute sodium that the consequence to that will be a lowering of blood sodium.

TAYLOR With respect you still fail to understand the fact that Adam is a bucket with a hole in it, sorry for the crude analogy but he has this tap that is draining 200 mls an hour that can't hold back fluid as we do.

Right.

TAYLOR If we fast for a period our kidneys are notified and switches off our bladder.

Right.

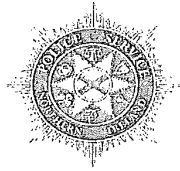
TAYLOR Adam can't do that, I'm sorry for the emotion in my voice but I'm obviously still affected by the -

- Yeah I understand that -

TAYLOR - the loss of a child it's very very painful.

But what is the answer Doctor to that I mean are you saying then that 900 mls during the night could have reduced his sodium or could not have reduced his sodium.

TAYLOR Well the evidence we have from his previous 4 years of life and his blood tests that were done showed that he had



achieved a balanced state.

Yeah.

TAYLOR Where he received, he drank very little during the day I think the idea was to get 2 litres.

Yes.

TAYLOR Or so they had to top him up at night.

Hm hm.

TAYLOR To get his nutrition and his fluids.

Yeah.

TAYLOR And then they dialysed that water element away so I wouldn't have expected him to come to harm.

Right.

TAYLOR Because of that regime and therefore I to (inaudible) corrected.

Yeah.

TAYLOR Corrected the deficit.

But what I'm suggesting Doctor is that in the past overnight he would have been getting neutrozone not dioralyte.

TAYLOR Yes.

So this time the regime is different now.

TAYLOR Yes.

He's been given 900 mls of dilute saline.

TAYLOR Yes.

And therefore what you had seen demonstrated in the past you can't expect -

TAYLOR - Well -

- that this will have been repeated on the 27th of



November.

TAYLOR I understand what you're saying, children go through periods of being unwell.

Hm hm.

TAYLOR Viral infections for instance and he would have had I think it's been documented periods of diarrhoea and vomiting.

Right.

TAYLOR The feed would have been stopped and dioralyte would have been substituted now I can't point you to the days that that happened.

Right.

TAYLOR But universally in all children's lives there's periods of being unwell and unable to tolerate normal nutrition so you put them on a period of fluid and electrolytes.

Hm hm.

TAYLOR Dioralyte is well established, I can't be sure when I say this but I'm reasonably sure that he would have had dioralyte before and not come to any harm.

Right.

TAYLOR But that's an assumption I've made without checking.

Right.

TAYLOR But he would be a very unusual child if he had managed through all those years without any periods of being unwell.

Yes.

TAYLOR And therefore having his feeds.

Yes.

TAYLOR Substituted for dioralyte, dioralyte is a well known substitute for maintaining hydration and basic electrolyte disturbances during periods of -

- Yes I appreciate that but however what is now I suppose



common knowledge in the population is that hypotonic solutions if you take enough of them they will depress your sodium but this is advice given -

TAYLOR - yes I know -

- to marathon runners and -

TAYLOR - I know that -

- increasingly aware of that -

TAYLOR - yeah -

- so what I'm suggesting as a possibility is that this child overnight gets 900 mls and then in the next half, well I think that's up to 6 am then he gets nothing for 2 hours and then in the next half hour he gets 500 more mls so he's now got 1400 mls and in the next hour.

TAYLOR Hour and a quarter.

Hour and a quarter gets another 500 so what I'm suggesting to you is you know could this quantity of dilute saline have been responsible for depressing his blood sodium.

TAYLOR Well the theory for dilutional hyponatremia and I've researched this a lot and Doctor Sumner has also suggested dilutional hyponatremia. The research papers and the descriptive studies there's never been a double blind research trial giving one child one fluid and one child the other.

Right.

TAYLOR So all we can go by is descriptive studies.

Okay.

TAYLOR Which have got low weight of evidence but they are the only thing, we're never going to get ethical approval.

Okay.

TAYLOR To randomise children to get.

Yes.



TAYLOR That study the (inaudible) paper that Doctor Sumner keeps quoting dilutional hyponatremia the title of that suggests healthy children it's in the title healthy children.

 Hm.

TAYLOR To make dilutional hyponatremia (inaudible) hyponatremia work.

 Yes.

TAYLOR Your theory work.

 Yeah.

TAYLOR You need intact kidneys, you need kidneys that in periods of dehydration shut down and retain water, that's part of the stress response.

 Okay.

TAYLOR And then the water that you're retaining Lucy Crawford.

 Yes.

TAYLOR Raychel Ferguson this is the mechanism of their deaths.

 Yes.

TAYLOR Quite agree with the mechanism of their deaths.

 Right.

TAYLOR They had periods of dehydration the kidneys responded to dehydration by passing small volumes of concentrated urine.

 Yeah.

TAYLOR In both cases I wasn't the doctor looking after them.

 Yeah.

TAYLOR But I've reviewed with my colleagues.

 Yeah.

TAYLOR The cases, in both cases they've had small volumes of concentrated urine a key element in dilutional



hyponatremia and therefore they retain free water, the water element is retained in the body. If you retain water but lose concentrates of sodium you dilute, you get dilutional hyponatremia.

Hm hm.

TAYLOR

It was impossible for Adam to get dilutional hyponatremia as we understand it, impossible, he can't concentrate his urine, I've said this in, to the inquest in 96 and I say it now and the experts fail to recognise I believe, Adam can't get dilutional hyponatremia and yet the coroner put that as the cause of death and I'm adamant in the belief that Adam cannot concentrate urine and pass small quantities of concentrated urine. All of his life he's passed urine with a sodium concentration of 30 which is a weak dilute (inaudible). So Adam can't get dilutional hyponatremia, Doctor Sumner's theory is, it's difficult to fit Adam's condition to that. The papers that have been written on dilutional hyponatremia depend on kidneys restricting their output and retaining water and therefore diluting the body's electrolyte is impossible.

Well you know I hear what you're saying Doctor and I mean if you're differing with Doctor Sumner and with others it's maybe not appropriate for a police officer to suggest that one's right and the other's wrong but is it not the case if what you are saying to me is that if you put fluid into a child like Adam you can't affect his sodium level by diluting his blood because he's passing so much urine that is -

TAYLOR

- I haven't said exactly that I've said that the theory of dilutional hyponatremia.

Right.

TAYLOR

And remember it's only a theory.

Yeah.

TAYLOR

No one's actually proven it.

Right.

TAYLOR

There's been cases described where this has happened.

Yeah.



TAYLOR It has only happened in children with intact kidneys.

 Okay.

TAYLOR Now what you're, what you've just suggested is a different theory.

 Hm hm.

TAYLOR Which is something that I think is a possibility is that if we exclude the theories of dilutional hyponatremia due to renal retention of water.

 Hm hm.

TAYLOR That purely by filling the bucket with water you will dilute the mass of sodium then that's theoretically possible but I can attend that the volume of fluid that Adam was losing in terms of his renal losses and his surgical losses and (inaudible) when your belly's open to the atmosphere you're losing a massive amount of water with a warm theatre, you've an operation, convection, conduction of heat and fluid.

 Yeah.

TAYLOR (Inaudible) in it is massive.

 Right.

TAYLOR I have to include all that in my calculations.

 I appreciate that.

TAYLOR I haven't even mentioned that.

 No.

TAYLOR As another possibility of fluid loss because I've tried to stick to more measured.

 Yeah.

TAYLOR Measureable facts, I believe that what you're suggesting to just dilute the sodium to such an extent you would need vast quantities of water to dilute all the sodium that's in an entire body but it's theoretically possible.

 But it's, but the damage would have been caused Doctor



by diluting the sodium that was in the blood alone you wouldn't have had to have diluted the sodium that was in the cells just in the blood.

TAYLOR Well sorry with respect -

- (Inaudible) -

TAYLOR - osmosis happens so that -

- yes -

TAYLOR - the body is in continuity, the blood in the circulating blood volume isn't -

- yes -

TAYLOR - contained in an impermeable -

- yes -

TAYLOR - polythene bag.

Yes.

TAYLOR It's in continuity with the organs in the body.

But -

TAYLOR - And the organs contain salt and therefore the salt passes from the high concentration to a low, the basic theory of osmosis.

Yeah so.

TAYLOR To say that you're only diluting the polythene bag if you like.

Yeah.

TAYLOR The circulating blood volume is possibly with respect naïve.

Yeah.

TAYLOR Because it isn't continuity.

I appreciate that.



TAYLOR With the rest of the body.

But my understanding was that you know if you're, if you are trans., or infusing dilute saline into the blood you in the first instance will depress the sodium concentration in the blood now I appreciate that very soon after that will attempt to equalise through the body.

TAYLOR Hm hm.

But it's in the, it's in the equalising that the cerebral oedema takes place that kills the child.

TAYLOR But you've with your theory.

Yes.

TAYLOR You've failed to account because the tap's are on the bottom end the much, as much fluid as I pour in pours out.

But that's not true Doctor in this case because you put in 500 mls in half an hour and he's only losing you say 200 mls an hour.

TAYLOR No we know his minimum blood urine loss was 200.

Hm hm.

TAYLOR Because he can't concentrate.

Yeah.

TAYLOR So we've never known about Adam and it's a possibility is that if you give him 500 mls he can pee 500 mls, his kidneys are sieves, they are not, no one knows what the maximum urine output of Adam was.

Right.

TAYLOR He never got more than 2000 litres a day so he passed 200 -

- 2000 mls -

TAYLOR - 2000, 2000 mls a day.

Right.

TAYLOR So he passed 200 mls an hour, if we give him 5,000 mls a



day he might have passed 500 mls an hour -

- Yeah -

TAYLOR - or 250 no one knows what Adam's kidneys are capable of the only thing we do know was he passed a minimum amount of urine which was 200 mls a day and my knowledge of Adam at this time was that this was a minimum loss and in fact my knowledge of the kidney disease was that there may be an unlimited.

Right.

TAYLOR Loss here, so the more, I gave him the type of fluid which I knew he was losing and I knew that he had at least 200 mls an hour.

Hm hm.

TAYLOR But my knowledge was my knowledge was that this could in fact been an unlimited urine output.

Right.

TAYLOR No one had established maximum output.

Well that may be possible you know if it's true what you say that his potential for urinary output was much higher than had been measured how then, what then would have been the mechanism that produced the (inaudible) figure of 124 sodium because something has happened to significantly reduce the sodium level in a relatively short period of time if it's not by dilution.

TAYLOR Yes.

What caused that.

TAYLOR Sorry ah if I can take you to the date here in 1995 when you've got a sodium of 124, 129, 127.

Hm hm.

TAYLOR What happened those days.

Hm hm.

TAYLOR Did he get, did some doctor give him 500 mls of.



Hm hm.

TAYLOR Hypotonic fluid I don't think so, how can you explain these results and I'm not being facetious or.

Yeah.

TAYLOR I'm just saying I wish I could explain it.

Yeah.

TAYLOR I think the theories of hypotonic, dilutional hyponatremia or improperly applied to Adam -

- Because of his high kidney output.

TAYLOR It's making diagnosis fit a known disease and it's not factual.

Right.

TAYLOR There is no research, clinical evidence that a patient like Adam can get dilutional hyponatremia.

Right.

TAYLOR We know that his sodium varied but unusually we knew that he, because of his good care and attention from his doctors and nurses and his mother that he was able to maintain a relatively stable course.

Right.

TAYLOR That he got the odd rogue result, my sodium is measured in the blood gas analyser as I said before is not, our labs for instance refused to accept that as gospel.

Right, Doctor again we've only one or 2 minutes so I think this is a suitable moment just to change the tapes, it's 1551.

**CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0176147A
INTERVIEW OF ROBERT HENRY TAYLOR ON 17
OCTOBER 2006 BETWEEN 1508 HOURS AND
1551 HOURS**

Paul Kennedy A/E



We're continuing the interview it's 1552, still the same 4 people and we're in the same interview room. If I could ask you again Doctor just to confirm that there were no questions asked of you during while the tapes were off.

TAYLOR No questions asked.

And that if I can remind you that you're still under caution.

TAYLOR Yeah.

The caution still applies. Doctor I did confirm with you the minute the tape was switched off that you were, you had just said that there may have been an issue with the lab's view of the blood gas, if you want to pick up from there.

TAYLOR Yes thank you. My recollection is not based on fact for what I'm going to say now it's based on my memory.

Fair enough.

TAYLOR Of the blood gas analyser, it's a BGE report.

Okay.

TAYLOR There have been discussions in the 1990s when I came to work in Children's between the Royal Biochemistry Lab I think it was under the direction of Mr Selby Nesbitt about what's called (inaudible) patient lab testing and that he was not confident to rely on blood tests that were done near the patient's bedside because his lab technicians didn't have access to the calibration of such machines. We installed a machine that not only measure blood gases which was the usual tests that we were doing but also had the ability to measure some electrolytes, at the moment we're more advanced.

Yeah.

TAYLOR But for instance to measure sodium you need what's called, when you take a blood sample from a patient it clots.

Right.

TAYLOR So you have to add (inaudible) to it.

Hm hm.



TAYLOR Which stops the blood clotting. In 1995 we were adding (inaudible) as a liquid to the blood to stop it clotting inside the machine.

Hm hm.

TAYLOR Cause it can mess up the machine.

Right.

TAYLOR The cells get clots on them, so the blood is thinned. The (inaudible) that we use has can affect the blood chemistry but not the blood gases.

Yeah.

TAYLOR We since I think following this case reviewed our blood tests near -

- Hm hm -

TAYLOR - the patient in intensive care and there was a change in the analyser and we also (inaudible) that don't interfere with the electrolyte measurements.

Okay.

TAYLOR So I would've been aware this time that although I could rely on the ph, the CO2 and the oxygen that the other measurements from that blood gas machine were unreliable.

Right.

TAYLOR I know well known cases of a blood test not corresponding with the laboratory.

Would you have any idea as to their degree of unreliability when that produces a figure of 124 is there a constant sort of a I suppose margin of error.

TAYLOR I wasn't an expert except to say that we were continually warned by the medical technicians Doctor, Mr Tommy Ryan that we weren't to rely on these tests.

Right.

TAYLOR I think they could be spurious and sporadic. Sometimes I believe they could be quite close.



Right.

TAYLOR Other times they could be widely variant depending on the amount of (inaudible) –

- Hm hm -

TAYLOR - that's drawn up into the syringe.

Hm hm. Are you aware Doctor if any further electrolyte tests were done after the operation.

TAYLOR Yes.

And would that have been done with the BGE machine or would that have been a lab result.

TAYLOR No they were sent, they were sent to the lab as soon as the operation was over at that stage. The first time we knew there was a problem was the failure to wake up so amongst all the -

- Hm hm -

TAYLOR - tests we would've done at that time to establish the reason why Adam didn't wake up sending bloods to the lab -

- right -

TAYLOR - would've been a priority at that stage.

Right and what do you recall what sodium level was returned from those tests.

TAYLOR Let me just check 119.

Right and what time is there any indication as to what time that would've been taken.

TAYLOR Yeah think that might've been done, in those days the Royal getting a porter.

Hm hm.

TAYLOR That time of the morning which was the changeover time.

Right.



TAYLOR To take a sample to the lab and get the lab to analyse it.

Yes.

TAYLOR And get it back would've been anything from one hour to 3 hours.

Right but that figure of 119 what do you say Doctor -

TAYLOR - I think that was the test that was done I would've done a set of tests haemoglobin electrolytes at the completion of surgery.

Okay right.

TAYLOR When I noticed there was a problem 11.30.

Okay.

TAYLOR It was probably 11 o'clock to 11.30.

Right and -

TAYLOR - But it may only have come back at 1.20.

Without going into the details of your statement again is it the case that when you received the 124 figure at 9.32 or thereabouts you did alter the fluid management you minimi..., or you reduced the number 18 rate.

TAYLOR That's correct.

So when the level hits 124 however accurate that may be you did take a, take steps -

TAYLOR - I did -

- would have the effect of minimising any reduction in sodium.

TAYLOR Hm hm.

But for whatever reason the sodium at 11.30 was 2 hours later is actually even more depressed than 119.

TAYLOR Yes yeah.

So is it reasonable to assume that if 124 is inaccurate it's



inaccurate by giving you a false high the actual figure would have been lower than that.

TAYLOR I don't think anybody can say that.

Right.

TAYLOR I think in my statement I said the main corrective action I took to that blood sample at 9.32 was to get blood.

Yes.

TAYLOR Because the haemoglobin again.

Yes.

TAYLOR An unreliable but (inaudible) figure.

Yes.

TAYLOR Was 6.1.

Yes.

TAYLOR So I think my main response to that as well as changing decreasing the amount of glucose containing solution.

Hm hm.

TAYLOR Was in fact to it could for instance it could've been an accurate sodium.

Hm hm.

TAYLOR It could've been.

Hm hm.

TAYLOR But I am highlighting the fact that there was discussion at the time.

Hm hm.

TAYLOR Not to rely.

Hm hm.

TAYLOR 100 per cent.



Yes fair enough.

TAYLOR On that sodium.

But the position is then Doctor that at 2300 hours the night before the sodium is 139 and we don't know how or when it began to fall.

TAYLOR Right.

But at sort of 12 hours later 12½ hours later.

TAYLOR Hm hm.

About midday the following day it's 119 that's an accurate result.

TAYLOR That's an accurate result.

That's a lab result.

TAYLOR That's correct.

Can you explain to me what could have been happening in that 12 hour period to reduce sodium from 139 to 119.

TAYLOR Well I wish I knew.

Right.

TAYLOR I wish I knew. I can suggest as I've said to you that didn't happen.

Hm hm.

TAYLOR Dilutional hyponatremia could not have happened as described in the literature, Adam was unable to concentrate urine and slow down his urine output.

Hm hm.

TAYLOR We know that since the day he was born he was unable to perform that mechanism.

Mm.

TAYLOR So the theory of dilutional hyponatremia the cause I believe of Raychel Ferguson and Lucy Crawford's death.



Yes.

TAYLOR Was impossible in Adam's case.

Right.

TAYLOR It was physiologically impossible, so that doesn't help you to say why.

Yeah.

TAYLOR But that tells you what it wasn't.

Right.

TAYLOR It wasn't dilutional hyponatremia therefore what could it have been. Well sodium is a complex handling of sodium in the body is complex I've read and thought about this for a long time.

Hm hm.

TAYLOR It requires we know that when a lot of patients get sick near death their sodium drops because sodium is maintained at the high concentration in the blood a low concentration in the cells by an active mechanism.

Hm hm.

TAYLOR ATP it requires to do that. A failure of that mechanism in certain toxic states and certain disease states can cause your sodium to fall without being dilutional without the need to have given inappropriate fluids. Many patients die in the intensive care unit for instance and the pre morbid test will show a low sodium, so just before you die your sodium will be very, very low.

Hm hm.

TAYLOR That doesn't mean someone gave you too much water it doesn't mean that, in fact cause of death through inadvertent hyponatremia is quite unusual quite rare.

Hm hm.

TAYLOR That's what you're investigating. So I can't tell you –

- Mm -



TAYLOR - that that's what happened to Adam no-one will ever know but I am strongly of the opinion that it cannot have been dilutional hyponatremia.

Yet you know all of your colleagues I mean at the inquest that's the verdict that the coroner came to and I wasn't at that inquest but I have been at a number of inquests since and the coroner it was Mr Lecky in every case.

TAYLOR Yes.

And he it seems to be his standard practice from the outset and I know Mr Daly feel free to inter..., you know -

SOLICITOR - Hm hm -

- if you know this isn't the case cause you would've been in many more than I have been perhaps, but it seemed to me that the coroner has his eye on his verdict from the word go and as he has a witness in the witness box or an expert before he dismisses the expert he asks basically what they would give -

TAYLOR - (inaudible) -

- as 1A etcetera -

TAYLOR - hm hm -

- 1B or whatever and therefore when the coroner has concluded that dilutional hyponatremia is a factor I assume that a number of the experts there have agreed with him on that certainly Doctor Sumner did. Now my recollection and I may later to be proved wrong on this but I think Doctor Savage agreed that that was that the coroner's verdict was accurate. So I mean Doctor -

TAYLOR - this is the frustration thing.

Yeah.

TAYLOR Frustrating thing for me.

Yeah.

TAYLOR Is because when I have spoken to Doctor Sumner.

Mm.



TAYLOR Doctor Savage outside.

Hm hm.

TAYLOR The confines of the court.

Mm.

TAYLOR They both acknowledge that the cause of the papers on dilutional hyponatremia couldn't have happened Adam and yet in court they say it did.

Right.

TAYLOR So the sense of frustration is clearly evident in my.

Hm hm.

TAYLOR And I obviously there's a misunderstanding but my reading of the literature and my knowledge of the literature is quite in depth, I have written articles on hyponatremia and Adam Strain cannot get dilutional hyponatremia.

In the sense that you can't dilute his blood because his kidneys will not allow that to happen.

TAYLOR Correct.

What confuses me slightly there is it still appears to me that if he's losing 200 mls an hour and you're putting in 500 mls per half hour or within the half an hour you have achieved a dilutional effect. Now it is possible that he passed that 500 straight through but there's no proof of that you know, so that's supposition really and therefore if we suppose the contrary that 200 mls is his kidneys.

TAYLOR Hm hm.

Maximum output or normal output and it doesn't go away above it if you put in 500 mls in half an hour and he's only getting rid of 100 mls you have achieved a dilutional hyponatremia for that period of time.

TAYLOR Well sir I've given very many children.

Mm.

TAYLOR And patients much younger than Adam.



Hm hm.

TAYLOR Similar quantities of fluid and not one of them has died as a consequence or shown any ill effects.

Right.

TAYLOR And many paediatric doctors will say the same.

Right.

TAYLOR If they so if they so wish.

Right.

TAYLOR So why should Adam it's not that simple and I understand what you're saying.

Yeah.

TAYLOR But I have worked for many years in paediatrics and many, many children have received the same fluids as Lucy Crawford and Raychel Ferguson and Adam Strain and come to no harm and I fail to see how people can say that's the cause because how do you explain the rest of the iceberg that's under the water of children who come to know harm.

See that's the line that the Chief Medical Officer took that Raychel's or was it Lucy's one of the girls situation was an aberration it was a reaction peculiar to her and yet Sumner would say the exact opposite.

TAYLOR I know.

He say you give any child that amount of fluid in that in that time span and they will have terminal (inaudible).

TAYLOR (Inaudible) experts in the field who've written on this will say it is unheralded there and idiosyncratic .

Okay.

TAYLOR It happens to some and not others. I don't know why Mr Sumner would say such a thing.

Mm.



TAYLOR But the (inaudible) himself has suggested that it's -

- Hm hm -

TAYLOR - unusual, unheralded and unpredictable.

Right if we can move on then. Is there anything further Doctor you want to say in relation to that.

TAYLOR No thanks.

Okay. Doctor Sumner has equally said that in an operation of this complexity and of that length it should be standard practice to take a base line leading of blood gas to get the electrolytes as soon as you get vascular access and he would say in an operation of this length in the middle of the operation and again at the end of the operation, do you want to comment again on what Sumner has said specifically.

TAYLOR I refer to my earlier answer.

Yeah.

TAYLOR At the beginning our priority was for Adam's safety. I did do a blood gas and also knowing that our sodium was not reliable and then another electrolyte at the end, so I agree with him that it is a priority but in the list of priorities.

Right.

TAYLOR It was a compromise.

Okay and you have said in your deposition Doctor that it wasn't practical to carry out electrolyte tests at the commencement of surgery do you recall that line.

TAYLOR I can only assume it because of the difficulty in getting portering.

Right okay.

TAYLOR And things to the lab.

Okay.

TAYLOR And getting a lab worker to come in and do a blood test.

Right.



TAYLOR As I say it could take anywhere between 1 and 3 hours, so very often a blood sample you send is out of date by the time –

- Hm hm -

TAYLOR - you get it back.

Hm hm.

TAYLOR It's been a real problem but I think time has improved that resource.

Hm hm right and Doctor in, in your deposition again in relation to the blood gas at 9.30 you made 2 comments, number 1 that there were no indication of problems and also that the condition was likely to precipitate osmotic fluid shifts were not present.

TAYLOR Mm I don't think -

- And it would appear to me that both those statements are wrong.

TAYLOR When did I say that.

In your deposition, now this is in 96.

SOLICITOR Perhaps would be better if he had the option of reading it so he can challenge the content.

Yes I'll do that yeah just retrieving that Doctor if you bear with me. The first line that I'm drawing your attention to is that there were from the blood gas there were no indications (inaudible) if you want to read the highlighted sentence there and feel free to read as much of it as you want to get the context.

TAYLOR I was referring to the blood gases which was the purpose of doing the blood test at that stage. As I said earlier there the electrolytes and the blood haemoglobin concentration (inaudible). The technicians tried to give as much information as they could at the time but we told by the labs not to rely on these tests, so although they're there.

Hm hm.



TAYLOR We wouldn't have paid particular attention to them.

Hm hm.

TAYLOR We did pay attention but not to the degree so that would've referred to the conduct of his anaesthetic in terms of the ventilator was adequate there was no acid problems in his body. So I think the context of that statement refers to the blood gas analysis.

Okay and then again if you want to read, read as much as you want but this particular sentence here Doctor on page 8...., the condition's likely to precipitate osmotic fluid shifts were not present.

TAYLOR Right that statement refers to his albumin.

Yes.

TAYLOR And his sugar, if albumin or sugar if the albumin is low as happens in some chronic malnourished.

Hm hm.

TAYLOR Cause that's a protein, blood protein is low then osmotic fluid can come out of the cells into the circulation.

Hm hm.

TAYLOR So that wasn't I've defined that by saying albumin was normal and his sugar was normal.

Hm hm.

TAYLOR So that didn't cause osmotic fluid shifts.

Hm hm. If I can just read that (inaudible). Yes you see on the 3rd line it says for instance an arterial blood gas at 9.30 confirms CO2 and oxygen monitors were accurate.

TAYLOR Yes.

The blood pressure was lower in fact the blood gas did not indicate metabolic asiderosis.

TAYLOR Mm.

The heart rate and blood pressure consistent between the (inaudible) and PICU monitors. Condition is likely to



precipitate osmotic fluid shifts were not present. So that, that sentence appears to be related to the blood gas at 9.30 it was taken.

TAYLOR Mm.

And it appears to me that the sodium level at 9.30 the result that you got with the low sodium.

TAYLOR Hm hm.

Ought to have highlighted the fact that there's every likelihood of an osmotic fluid shift now because of the depressed sodium concentration.

TAYLOR Right we were reminded not to rely absolutely on that.

Hm hm.

TAYLOR Blood gas analyser for sodium.

Hm hm, hm hm.

TAYLOR And the fact that his sodium had recently been normal.

Hm hm.

TAYLOR After previous dialysis that I was giving him fluids.

Hm hm.

TAYLOR That I felt were appropriate for his type.

Hm hm.

TAYLOR (Inaudible) of fluids didn't lead me to think that they would be osmotic shifts and I couldn't rely on I was instructed never to rely on that sodium.

Hm hm.

TAYLOR Particularly the way that we give it as I've explained with (inaudible) –

- Hm hm. Well would it have been reasonable if that was the case Doctor and you have a reading which is markedly down on the previous reading it's 15 down in 8 hours if you thought this might be the case and it might not be the case because it's unreliable did you take any



action at that stage to confirm if the blood gas machine was giving you an accurate read out.

TAYLOR Well as I explained before getting a blood test to the lab at that time of the morning.

Hm hm.

TAYLOR Is very problematic.

Right.

TAYLOR And getting a result back is very problematic.

Yeah.

TAYLOR It would have been unhelpful we wouldn't have got the blood result back until the case was finished.

Yeah.

TAYLOR And we're predicting I think that was also the time when the new kidney was going in.

Uh huh.

TAYLOR And he would've been given anti rejection drugs.

Uh huh.

TAYLOR We're going to have to think about profusing the new kidney.

Yeah.

TAYLOR And then the surgeons I believe were feeding back to me information the kidney wasn't working well.

Yes.

TAYLOR So that was all happening.

Uh huh.

TAYLOR In a crescendo and yes to sit here now and say do this, do this and do this.

Yeah.



TAYLOR Sounds absolutely common sense to be in the situation.

 Hm hm.

TAYLOR Clearly it was again as I said to the previous answer a priority.

 Hm hm.

TAYLOR But in the list of priorities.

 Hm hm.

TAYLOR Took 4th, 5th, 6th place. At that time there was I think just let me remind myself yeah we were coming up to the graft coming in there it was probably about 10 o'clock when I give the anti rejection treatment, so we were coming up to a time yeah when we were very closely scrutinising Adam's welfare.

 Hm hm.

TAYLOR And well can I say now yes I should have checked it in a list of other priorities.

 Mm.

TAYLOR It became lower, but the information I was getting from all my monitors and from my assessment of the surgical field was that we were okay we were doing well, the volume was there we were giving the right fluid the right quantities, surgical feedback was saying confirming what we'd given.

 Yeah.

TAYLOR And there was no reason to alter or to check things that would have distracted us from the immediate life saving life monitoring situation.

 Doctor it appears to me and feel free to tell me I'm totally wrong, but it appears to me that in a child of this size a drop to 124 from 139 in that time span is very likely going to be fatal and the doctor there should've known that.

TAYLOR I can't, I think your statement can't be left, number 1 we can't rely on the 124.

 Right.



TAYLOR That's absolutely clear that we can't rely on that. We know it's a rogue result. Number 2 –

- No you don't know that -

TAYLOR - we got responsible -

- it's possibly wrong -

TAYLOR - number 2 we know from his previous blood tests that he's tolerated sodiums of 124 without ill effect.

Yeah, yeah.

TAYLOR We don't know the cause of those it was never explained to me.

Hm hm.

TAYLOR But we know he's been there before and has come to no harm.

But is it not the case Doctor that children yes and possibly adults have tolerated even lower figures than 124 as long as that level is achieved slowly to allow time for (inaudible) to level things out, it's the rate of change as much as the degree of change that poses the threat, would that be fair to say.

TAYLOR There's lots of stuff going on here, he's ventilated, he's been anaesthetised.

Hm hm.

TAYLOR Now the problem with that means is we can't assess his neurological state.

Hm hm I appreciate that.

TAYLOR But the benefit of being anaesthetised and sleepy it offers brain protection.

Yes.

TAYLOR And again we went through this.

Yes.



TAYLOR At the inquest.

 Yeah.

TAYLOR And Doctor Sumner had views on that as well basically.

 Yes.

TAYLOR But there is an element that if you are at rest your body is
 being ventilated your brain is anaesthetised.

 Mm.

TAYLOR There is (inaudible) protective effect to that.

 Yeah.

TAYLOR So in some ways I agree with you that if this patient was
 not anaesthetised and a sudden drop in his sodium you
 would expect there to be symptoms.

 Yeah.

TAYLOR Some signs of irritability perhaps.

 Yeah.

TAYLOR Some signs of having a fit.

 Yeah.

TAYLOR Even under anaesthetic we should have seen that.

 Right.

TAYLOR We should have seen a change a sudden change in his
 heartbeat.

 Yeah.

TAYLOR His oxygen, his CO2 or his blood pressure and we didn't
 pick that up at any stage. There was no evidence that a
 sudden drop had caused a change in the well being.

 Hm hm.

TAYLOR Of Adam Strain, so I was at a loss to associate the
 change in sodium that you've highlighted with any clinical
 deterioration in my patient.



Is it the case Doctor that at that time at 9.30 you were distracted by the other very important aspects of the operation that were taking place and the significance of 124 was in fact missed and wasn't addressed.

TAYLOR No I think that we were aware of all the blood tests that were done at that stage, priorities were set.

Mm.

TAYLOR But that didn't mean that we took our eye off any partic..., we were juggling lots of balls I agree.

Hm hm.

TAYLOR But we didn't take our eye off any one particular ball. We made alterations in his fluid we give blood.

Hm hm.

TAYLOR Which is a good fluid at concentrating the blood again.

Hm hm.

TAYLOR If your sodium's low and you get blood.

Hm hm.

TAYLOR That's a good way to bring the sodium back up.

Hm hm.

TAYLOR The HPPF that I give at that time did contain sodium.

Hm hm.

TAYLOR Again Doctor Sumner chose to say there was no sodium in it, I think again to fit possibly fit his theory, but the sodium solutions that were give, I was giving to Adam were there in sufficient quantity to correct and the further reduction in the rate of flow of his fifth normal was there to correct the measured low sodium. So if we were aware of it, not if, we were aware of it we took further action to reduce the possibility of dilutional not dilutional hyponatremia but diluting hyponatremia.

Right.



TAYLOR Important distinction.

Right.

TAYLOR I accept your point of diluting hyponatremia.

Yes right.

TAYLOR But not dilutional.

Okay fair enough.

TAYLOR I think that refers to a specific disease state.

Right.

TAYLOR That some patients get.

Okay.

TAYLOR But not Adam Strain. Diluting hyponatremia was at 9.30 seized upon.

Hm hm.

TAYLOR And measures were put in place to prevent a further drop and in fact to start to bring the sodium back up.

Right and if you were addressing that Doctor you must have recognised that whether this is an absolute figure or not there is a possibility of the sodium being low it needs to be addressed.

TAYLOR Yes.

Did you conduct any further blood tests to see is my, the action that I've taken at 9.30 or shortly after it is it working.

TAYLOR No.

Right.

TAYLOR Not until the end of the case which was an hour and a half later.

Right and why would that have been.

TAYLOR Because in our list of priorities checking this result.



Hm hm.

TAYLOR Having taken measures to correct it the fact of doing it.

Hm hm.

TAYLOR Was less important.

Right.

TAYLOR Than getting on with it.

Okay.

TAYLOR Than making corrections to it which is clearly and according to the anaesthetic record.

Right.

TAYLOR What I did.

If I can change tack entirely here for a minute Doctor you have mentioned frequently and your statements reflect that frequently during this operation you had to address the issue of blood loss and I think you have, you have estimated the blood loss maybe slightly differently at different times but it's between I think is it 12.11 and 14, 12.11 and 14.11 somewhere in that area but we'll say 1300 mls roughly would you be happy enough with that.

TAYLOR I thought it was 14.11.

14.11 then we'll go with that I think deposition but we can come to it.

TAYLOR Okay.

(Inaudible) if we sit with 14.11, now your calculation here at the top of page 5 is that Adam's total blood in his body is 1600 mls.

TAYLOR That's right.

And your estimation is that he has lost 1400 of those and because I've interviewed the nurses and I've heard you go over the, your reasons for giving that figure, that is a reasonably accurate figure, that's not a figure plucked out of the air but you have measured certain things and weighed swabs and measured how much is in suction



bottles that sort of thing, so to lose 1400 out of 1600 mls to me is a fairly significant blood loss.

TAYLOR (Inaudible.)

Is that your view.

TAYLOR Absolutely.

Now Doctor King tells me quite categorically that there was very very little blood loss, can you explain that to me.

TAYLOR I can't account for Doctor King's recollection except as always I keep a close contemporaneous record.

Mm.

TAYLOR Of ongoing loss.

Hm hm.

TAYLOR And at the end I did record what was in each of the bottles and swabs.

Hm hm.

TAYLOR And the thing is the towels.

Yes.

TAYLOR It was impossible to weigh.

Yes.

TAYLOR Because but I think I made a comment they were heavily soaked.

Yes yeah.

TAYLOR Now I've seen -

- Hm hm -

TAYLOR - patients dying before of blood loss -

- hm hm -

TAYLOR - in operations and the surgeons are walking through it, it's on the floor and the towels.



Yeah.

TAYLOR And my recollection of this case was there was a lot of blood about, my recollection I can't account for Doctor King's, Mr King's.

Right is it fair to say that not only is your recollection that but that the record would show that there was significant blood loss in that early on in this record the nurses the nurses measure blood loss.

TAYLOR Yes they weighed swabs.

Yes so the record shows significant blood loss is that correct.

TAYLOR Yes.

Right as well as your recollection.

TAYLOR Surgeons sometimes try to suggest there's been less blood loss.

Yeah.

TAYLOR In my view.

Well you're not the only anaesthetist to say that. Allegations have been made to us in this investigation that the method in which the kidney transplant was done leaving aside the fluid management right the surgery was inappropriate and incompetent and that that made your job harder, if the surgery had been done properly done better and done quicker your difficulties would have been significantly reduced.

SOLICITOR You mentioned that at the outset I think.

Yeah.

SOLICITOR And his answer was as a clinical judgement how to perform the surgery.

Yeah.

SOLICITOR (Inaudible) judgement for the surgeons.

TAYLOR (Inaudible). Can I just say he was a difficult challenging



case (inaudible).

I appreciate that.

TAYLOR For many reasons.

Yeah but why I'm coming back to this is I want your view on and I mean you don't have to give me it Doctor, but is it possible that the surgeons fouled up to use common (inaudible) and made it harder for you and then they walked away from it all and left the anaesthetist to carry the can, is that your view.

SOLICITOR That's quite a robust statement I'm sure it's one he'd want to reflect on.

Well put it another way Doctor in your initial comments you made it very plain that in the past when things go wrong in the transplant operation surgeons go out to the family and say the anaesthetist didn't give us enough blood and we've lost the kidney or whatever, I mean that's you said words to that effect.

TAYLOR I've been in a situation like that.

Yes yeah.

TAYLOR I've quoted a situation I've been in.

Is that because obviously I have to investigate the totality of the I suppose suspicions, possibilities and information that I'm given that is one thing I was told. We've investigated it come to certain conclusions but I'm asking you is there anything that you want to say in relation to that allegation that's been made to the police.

TAYLOR I mean as a general rule if I were to give an anaesthetist where there was no blood loss.

Hm hm.

TAYLOR Ever.

Yeah.

TAYLOR Then that would be the perfect anaesthetist.

Yeah.



TAYLOR But the weight and quality and quantity of blood loss and fluid loss from the body varies enormously from patient to patient.

Right.

TAYLOR I think in Adam's case there was a lot to do an awful lot to do.

Right.

TAYLOR I depended on a very highly trustworthy skilled team to support me.

Yeah.

TAYLOR And we worked hard to get it right with Adam and he didn't respond to our I believe our best and my best efforts to do that.

Okay.

TAYLOR And I have it's my job to cope with surgery.

Hm hm.

TAYLOR And surgeons.

Hm hm.

TAYLOR It's my job I have to respond to what they do.

Right. In your experience Doctor in this type of operation is a blood loss of 1400 mls out of a total of 1600 mls is that to be expected, normal, slightly worse than usual or is it massively worse than what you may normally encounter.

TAYLOR It's very variable, it's a very variable pallet.

Yes right.

TAYLOR To lose a blood volume is a significant insult to a healthy patient.

Hm hm.

TAYLOR And more often requires post operative and inter operative special care. The challenge with Adam was to



not only replace the blood but to increase the volume of blood in his body in a controlled monitored way.

I appreciate that yes yeah.

TAYLOR Not in a reckless way.

Yeah.

TAYLOR But in a controlled manner and I have monitored him and planned his anaesthesia in such a way that that would be the case.

Hm hm.

TAYLOR I didn't intend a plan to run him dry.

Yeah.

TAYLOR I didn't intend that.

Hm hm.

TAYLOR And in fact I met my pre operative plan which was to give him the fluids that he required to maintain his normal physiology plus extra.

Yeah.

TAYLOR It's not unusual and I said in my statement to overload the circulation in a transplant and knowing that we can (inaudible) it out of him.

Hm hm.

TAYLOR But you don't get that chance if the kidney's lost so you have to err on the side of extra, extra fluid.

Doctor I appreciate that. I can go back to my question you don't have to answer it I'm going to ask it again. There is, you're an experienced anaesthetist, a loss of 1400 out of 1600 mls you've said is very variable, but in the variation that you've encountered is this at an extreme end of it or is it not.

SOLICITOR He may want to reflect on that and consider his whole experience cause that's effectively what you're asking him (inaudible) experience.



I am but I would have thought Doctor that you would know without too much reflection whether an almost total blood loss in a 4 year old is to be expected if it's within normal variation or if it's extreme.

TAYLOR Well I had planned for the eventuality of needing blood, I'd ordered 4 units in advance so I'd have to say that it wasn't unexpected that I would need to give a large quantity of fluid and blood, if I'd ordered 4 units in advance I was clearly expecting a lot of blood loss.

And how many of those units did you use Doctor.

TAYLOR Two.

Two okay fair enough.

TAYLOR So I have to answer it by saying there was a lot of blood loss.

Hm hm.

TAYLOR I had planned and experienced.

Hm hm.

TAYLOR Management of patients with that volume of blood loss.

Hm hm.

TAYLOR I would have preferred there to be less blood loss.

Hm hm.

TAYLOR I would have preferred there would be no kidney losses.

Hm hm.

TAYLOR I wasn't given that.

Hm hm.

TAYLOR Luxury with Adam.

Yes I appreciate that.

TAYLOR So my answer is not direct yes no I'm afraid.

Yeah hm hm.



TAYLOR I had planned for a lot of blood loss.

Right.

TAYLOR It was within my it was well within what I had planned for.

Yeah fair enough.

TAYLOR And I was able to and this is exactly why the fluid had to go in at the beginning.

Hm hm.

TAYLOR This is why the fluid had to go in because I knew it was going to run out of him.

Yeah.

TAYLOR In two ways.

(Buzzer sounds)

Right I think that's appropriate place, it's 1634 and we'll change these tapes.

CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0176148A,
INTERVIEW OF ROBERT HENRY TAYLOR ON
17/10/06 BETWEEN 1552 HOURS AND 1634 HOURS

Paul Kennedy A/Z



Right we're going to continue the interview, it's Tuesday the 17th of October 2006 and the time on the clock on the wall is 1641 and we're still in an interview room in Grosvenor Road Police Station. I think we'll since there was a few minutes in our break we'll start properly and say there are 4 of us in a room, my name is Billy Cross, I'm a Detective Sergeant from MIT Gough and the other officer present is.

Denise Graham, Detective Constable from MIT in Gough.

And -

TAYLOR - Doctor Robert Henry Taylor.

Thank you and the solicitor present is.

SOLICITOR Gary Daly.

Thank you. Doctor we will continue with the questioning but again I want to caution you before we do that and tell you that you do not have to say anything.

TAYLOR Hm hm.

But I must caution you that if you don't mention when questioned something that you later rely on in court it may harm your defence. If you do say anything what you say may be given in evidence. And Doctor that means broadly speaking that when we ask the questions you don't have to answer. If it goes to court and you mention something in court that you could have but didn't mention here the court may take the view as to how much reliance to place on it and anything you say here will be told to the court in the evidence that goes to court. Doctor we finished by me asking you questions in relation to the degree of blood loss and the performance of the surgeons. There is one other issue that I want to clarify and in between if you could just clarify that I asked you no questions in relation to this interview while the tapes were off.

TAYLOR That's correct.

Yes and I did indicate to your solicitor that I intended to ask a few more questions in relation to the state of the kidney and you were able to consult in relation to that. What I would like to ask Doctor is in the course of our investigation you're aware that Professor Berry and



laterally Professor Ridsden have examined samples taken during the post mortem and both have indicated to us that there is the possibility that the kidney the donor kidney that was being transplanted into Adam that it may have been infarcted or dead before transplant took place and therefore at the time the surgeons were working with this kidney the kidney was never going to be a success. What I'm asking you is were you aware of any discussions during the operation to that effect.

TAYLOR I was aware in my deposition that there was a long cold ischemic time.

Mm.

TAYLOR Which is the amount of time the kidney's been left in ice in the cold box.

Yes.

TAYLOR I'm not sure I don't take part in the decision.

Yes.

TAYLOR To use or not to use a particular kidney.

Hm hm.

TAYLOR The only element of having a kidney that is non functioning that affects me.

Hm hm, hm hm.

TAYLOR And did it bear, had bearing on this case was the fact that it didn't pink up it didn't become lively easily.

Hm hm right uh huh.

TAYLOR And the impact that that had on me was to reassess my fluids.

Uh huh.

TAYLOR Worry that I was still in deficit.

Hm hm right.

TAYLOR And that they hadn't despite my best efforts hadn't increased Adam's blood volume.



Right.

TAYLOR Sufficiently.

Uh huh.

TAYLOR To profuse the new kidney and that's a pressure that no
anaesthetist wants to have on their shoulders.

Yes.

TAYLOR To be responsible for.

Yeah.

TAYLOR The failure of a kidney.

Right.

TAYLOR So there would've been an impact on my conduct.

Yeah.

TAYLOR And responsibility.

Right. Can you say Doctor what your recollection is as to
whether or not the donor kidney (inaudible) during the
operation.

TAYLOR I can't remember.

Right.

TAYLOR I think I was so focused on recalculating, reassessing.

Right.

TAYLOR My anaesthetic.

Hm hm.

TAYLOR And particularly the fluids.

Yeah.

TAYLOR And just double checking that we hadn't.

Uh huh.



TAYLOR Gone behind we hadn't done anything that could've jeopardised the kidney.

 Yeah.

TAYLOR When we were so busy in discussion at the top of the table not to really pay much attention to.

 Right.

TAYLOR But the surgeons would again I can't remember in this case they would typically ask for more fluid.

 Hm hm. Doctor in relation to the events before the operation started you've mentioned that you did consult with the mother in relation to Adam's condition, she says that no consultant spoke to her at all before the operation, she found that unusual, are you sure that your recollection is accurate on that point.

TAYLOR I would always speak to a family before an anaesthetic at some stage.

 Hm hm.

TAYLOR It may well have been in the anaesthetic room, I believe I spoke to her on the ward.

 Right.

TAYLOR But –

SOLICITOR - It's 11 years ago.

TAYLOR I can't remember, she may have been at the loo or something.

 Yeah.

TAYLOR I made attempts to speak to her, I certainly spoke to her in theatre.

 Hm hm, hm hm. In summary Doctor your fluid calculations at the time of your deposition in 95, 96 are different in some particulars.

TAYLOR (Inaudible.)



To your statement to the public enquiry are you aware of that and can you account for it.

TAYLOR Yeah I just became aware today and as I look at my anaesthetic records I put 328 in swabs, 500 in suction and (inaudible) 300 in towels I'm not sure and that adds up to 1128.

28.

TAYLOR And that's what I put in the inquiry. When I prepared the statement for the enquiry I had access to other the full records in more retrospect and I can't see where it happened.

Hm hm.

TAYLOR But that's been revised up by some mechanism I can't remember.

Right.

TAYLOR Or know why but certainly if I were to rely on a number I would have to rely on my own figures from the anaesthetic chart which is 1128.

28.

For blood loss.

TAYLOR For blood loss.

Right.

TAYLOR Estimated blood loss.

Yeah.

TAYLOR I have put here approximate 300 for towels.

Hm hm.

TAYLOR And it may well be that –

- Hm hm -

TAYLOR - that I have underestimated that significantly. I think that's where the 200 mls to account for the 2 may come from.



Right.

TAYLOR That may be a different calculation from the nurses swabs.

And your deficit Doctor has increased.

TAYLOR Yes.

From 300 to 400 why is that.

TAYLOR I think it's because when I reviewed the pre-operative fluid balance chart that I saw that there was a deficit of 2 hours.

Yeah.

TAYLOR And I thought there was only an hour and a half on the day so.

Hm hm.

TAYLOR I think there was -

- Hm hm.

TAYLOR That was based on information that I'd probably -

- Yes -

TAYLOR - quickly wrote down on the day -

- yes yeah.

TAYLOR But on further investigation was revised up from the pre-operative fluid balance sheet.

Yeah see again Doctor Sumner has a radically different figure for deficit. He would produce a figure of 160 as opposed to 300 or 400.

TAYLOR Hm hm.

And he is averaging I think Adam's figures were 200, 2,100 mls a day that was his fluid intake.

TAYLOR Hm hm.



For a 20 kilogram child.

TAYLOR Yes.

And I think Sumner reduces that to a figure of 4 mls per kilogram per hour would that be right.

TAYLOR I don't know.

That would be a 105.

TAYLOR I don't know where he gets that from.

That would be a 105 mls per kilogram and divide that by 24 would be about about 4 mls per kilogram per hour and for a 20 kilogram child then that's going to be 80 mls per hour and for 2 hours then he comes to a figure of 160. On what basis are you you know coming to a figure of 300 (inaudible) –

TAYLOR - I think there's doc..., sorry I think there's documentation that he passed 200 mls of urine per hour.

Right.

TAYLOR And overnight he got cause he didn't take much fluid during the day.

Yeah.

TAYLOR Most of his fluid was administered at night and there was the usual 1600 mls.

Hm hm.

TAYLOR Administered 200 mls an hour.

Right.

TAYLOR Whereas the usual amount we administered at night.

Yes.

TAYLOR We did this operation at night or at the end of the nocturnal period.

Yes.

TAYLOR When he was receiving 200.



Uh huh.

TAYLOR His body had adapted to receiving 200 mls an hour.

Right.

TAYLOR So I tried to fit my anaesthetic into Adam's physiology.

Right.

TAYLOR Rather than what an average calculation might be.

Hm hm.

TAYLOR I can see where he's averaged that.

Hm hm.

TAYLOR But I felt that my calculation reflected Adam's physiology more closely.

Right, right and also is it the case that on one occasion one of your calculations was that he needed a 150 mls an hour for maintenance and then laterally you reviewed that upwards to 200, on what basis do you come to any figure for maintenance.

TAYLOR Well he got 1600 mls over 12 over 8 hours.

Right.

TAYLOR Which is 200 mls an hour, the 8 hour nocturnal period.

Okay.

TAYLOR That he was fed from 12 midnight I think to 8am.

Right.

TAYLOR Was his normal nutritional.

Right.

TAYLOR Dining period.

Yes.

TAYLOR And he received fluids of 200 mls. What I was looking for



from my anaesthetic was to try and meet his bodily losses the deficit.

Uh huh.

TAYLOR (Inaudible) maintenance and then replace the losses, so what I was trying to do was calculate at what I would need to give for this hole in the bucket.

Yeah.

TAYLOR And I knew the hole in the bucket was looked like 200 mls an hour.

Hm hm.

TAYLOR Now what happened during the day when he wasn't drinking.

Yes.

TAYLOR I don't know.

Okay so you weren't –

TAYLOR - I anaesthetised him 7am.

Yes.

TAYLOR During his nocturnal period when his body insulin, when his metabolism, when everything about him was geared to this.

Hm hm.

TAYLOR 200 mls an hour in 200 mls an hour out.

Hm hm.

TAYLOR And I attempted to at least at least.

Hm hm.

TAYLOR Give that as a minimum.

Hm hm.

TAYLOR And in fact as you pointed out the first hour I had to replace.



Mm.

TAYLOR What he hadn't had.

Mm.

TAYLOR Get on top of where we were and give the fluid for that hour which was 600 mls.

Hm hm.

TAYLOR And I chose to do that by giving 500 mls rapidly.

Right.

TAYLOR Although not as rapidly as I would give to a child.

Uh huh.

TAYLOR Who was critically ill.

Right.

TAYLOR And then give approximately 600 mls in that first hour.

Right.

TAYLOR Preparing for the surgeons.

Well Doctor what I suggest to you is you know the difference in the 2 calculations there may be in the region of 500 mls, now the later calculation for the public enquiry indicates well the effect of changing by 500 mls if you, if you gave Adam too much fluid you would be the effect is to reduce the apparent excess by 500 mls, you're saying he needed 500 mls more in your latest calculation and therefore if he was in fact overdosed with fluids the excess will appear to be lower, was that in your mind when you were reviewing your calculations.

TAYLOR No -

- Seeking to increase everything -

TAYLOR - I think what I did was to try and get a picture as I'd explained about what Adam's when I reviewed the notes in close detail.



Hm hm.

TAYLOR A clear, clearer picture of his nocturnal fluid requirements and this need to meet his minimal urinary losses.

Hm hm.

TAYLOR At least not knowing what the upper limit was of his losses but potentially it was an open tap.

Hm hm. In your deposition Doctor you have listed quite a number of parameters that were measured for the information of the coroner, in page 7 if you want to consult that again.

TAYLOR Hm hm (inaudible).

SOLICITOR I have it here.

If you want to read through there and I've listed them here you know there's cerebral oedema, pulmonary oedema mentioned so forth, inter cranial pressure, heart rate and on into the next page.

TAYLOR Hm hm.

What I'm going to ask you in relation to all of that the one that you didn't mention to the coroner then was the sodium result, was that a conscious decision to divert attention away from the potential that hyponatremia led to the cerebral oedema.

TAYLOR No, no (inaudible) page 6 it says something (inaudible).

6 there's it there.

TAYLOR I think hyponatremia was a clear and obvious possible cause of the cerebral oedema and the (inaudible) oedema. What I am seeing here is to try and look for an explanation as I thought at the time.

Hm hm.

TAYLOR In terms of calculation of the (inaudible) type and quantity which I think I said were the crucial elements. I pointed out the sugar, I've pointed out the fact that the fluids I gave restored the haemoglobin restored the sugar.

Yes.



TAYLOR And restored as much as I could. What I was talking about came out during the inquest was this idea that because (inaudible).

Hm hm.

TAYLOR (Inaudible) from previous surgeries could there have been this (inaudible) as a possible hanging injury.

Hm hm.

TAYLOR Because the fluid can get out of the brain.

Hm hm.

TAYLOR And one of the concerns was cause the central line was up here and partly included did we take steps to make sure the brain's drainage was optimum.

Mm, hm hm.

TAYLOR And I think Doctor Sumner had commented on the fact that with both, this is when I was preparing the statement prior to the case.

Hm hm.

TAYLOR And I was being shown the experts statements I think cause I'd written about that and I tried to explain why I didn't think there was a hanging –

- Hm hm -

TAYLOR - or cerebral injury because other parts of the body were swollen as well the lungs.

Hm hm.

TAYLOR But no I don't understand why you're saying I tried to down play the role of the sodium (inaudible).

It's just with all the parameters that are mentioned there it appears to me because of what I have read in relation to Raychel and Lucy.

TAYLOR Hm hm.

That the sodium of 124 is significant very significant but



it's not mentioned there, so I'm putting it to you that you knew it was significant and avoided mentioning it specifically.

TAYLOR I knew that sodium played an important role -

- Mm -

TAYLOR - in the fluid management, I knew about (inaudible) paper -

- mm -

TAYLOR - cause it was published in the 80s, I'd actually worked with one of the other doctors (inaudible) -

- right -

TAYLOR - who was (inaudible) list of references.

Yes.

TAYLOR So I was aware of dilutional hyponatremia.

Hm hm right.

TAYLOR I said during the inquest that I didn't feel Adam could have had dilutional hyponatremia.

Right.

TAYLOR For the very reasons we've discussed here.

Yeah hm hm.

TAYLOR And was looking for all other potential causes of Adam's death.

Hm hm.

TAYLOR Cause hyponatremia is an unusual cause of death.

Hm hm.

TAYLOR More common things happen.

Mm.

TAYLOR Like problems to do with the anaesthetist machine, warm



gases.

Hm hm.

TAYLOR Increase blood loss these are things that patients die of in inquiries.

Mm.

TAYLOR We were aware of we were looking for all causes. Hyponatremia was a cause that was raised by others but I wasn't and still am not convinced.

Hm hm.

TAYLOR That hyponatremia was the fatal cause of Adam's death.

Hm hm.

TAYLOR As I said before we get many patients in intensive care whose sodium is low at the time of death.

Mm.

TAYLOR Now whether that is a cause of the death or as a result of the dying process.

Hm hm.

TAYLOR Is debateable doctors will differ on that. I am still not convinced that hyponatremia caused his death.

Hm hm.

TAYLOR It was certainly present when he died.

Right so -

TAYLOR - But it didn't cause it in my view.

Fair enough. In that regard you descent then from the coroner's verdict and from the opinion of some of your colleagues.

TAYLOR Yes.

I don't know who all agreed with the coroner I wasn't there but you're descenting. Doctor one point, in your letter to Doctor or to Mr Brannon who was the solicitor



representing the Trust at the time.

TAYLOR Hm hm.

You said to him that you chose one fifth normal saline because it's isotonic.

TAYLOR Yeah.

Now my understanding is that that is technical true as it sits in a bottle.

TAYLOR It is.

But the minute it's infused its effect is hypotonic.

TAYLOR It can become hypotonic but not in every patient it depends on their metabolic condition.

And that –

TAYLOR - How quickly they burn the glucose basically.

Right and would you expect that Adam would be burning the glucose basically immediately.

TAYLOR Well under anaesthetist you burn less glucose.

Right.

TAYLOR Cause your muscles aren't active, you don't have to breathe.

Right.

TAYLOR You don't have to take as much sugar –

- Uh huh -

TAYLOR - out of your fluid -

- right, right.

TAYLOR If you're awake and active like Lucy and Raychel then you're going to burn more of the sugar, under anaesthetic with the body at rest.

Yeah.



TAYLOR Apart from the brain which contains some activity the rest of the body is at rest.

Yeah.

TAYLOR The glucose metabolism is much reduced so its ability to remain isotonic is enhanced.

Right.

TAYLOR It shouldn't become hypotonic to the same degree, that's another reason why the isotonic (inaudible) dilutional hyponatremia theory doesn't hold for Adam's case.

Hm hm.

TAYLOR None (inaudible) patients died on the table.

Mm.

TAYLOR They all died in the post operative period like Raychel.

Hm hm.

TAYLOR So there's lots of factors that don't fit the theory.

Is there anything else you want to say in relation to this Doctor.

TAYLOR No.

Is there anything Denise you want to ask.

No.

Right Mr Daly anything you wish.

SOLICITOR Nothing further no.

Doctor I've no further questions, it's 1703 and we'll terminate the interview.



CHECKED AND CERTIFIED AN ACCURATE
TRANSCRIPT OF PACE TAPE NUMBER T0176149A,
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Paul Kennedy A/T