FURTHER SUPPLEMENTAL BRIEF FOR EXPERT ON PAEDIATRIC ANAESTHESIA

ADAM STRAIN

Introduction

1. Thank you for your previous reports in respect of Adam Strain. The Inquiry Team would be grateful for your comment or opinion on the following issues:

Dr. Robert Taylor's sixth Witness Statement to the Inquiry

- 2. Please find attached Dr. Robert Taylor's latest witness statement to the Inquiry. The Inquiry team would ask that you reflect on this statement and address the following:
- (1) The extent to which you agree or disagree with the points made by Dr. Taylor
- (2) The significance of Dr. Taylor's statement for the issues to be considered by the Inquiry
- (3) Your assessment of Dr. Taylor's conduct at the time and subsequently from 1995 to 2012 in light of this statement
- (4) Whether there is anything arising that requires further query or investigation
- (5) Whether the statement causes any amendment of your previous expert reports to the Inquiry, and if so, what amendment is required and the reason(s) for the amendment(s).

Statement of Dr. Leslie Dyer

- 3. Please find attached a witness statement produced by Dr. Leslie Dyer who is an anaesthetist who retired in 1999 having worked at Marquette General Hospital, Michigan, U.S.A. since 1976, although he was educated and trained in Northern Ireland. As you can see from his statement, Dr Dyer was asked in 2005 by Adam's family to review the anaesthetic record during his renal transplant. He has volunteered this Inquiry witness statement.
- 4. The Inquiry team would ask that you reflect on this statement and address the following:
- (1) The extent to which you agree or disagree with the points raised by Dr. Dyer

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- (2) In particular, whether you agree with his assessment that cerebral hypoxia was "inevitable" (paragraph D14) and was "the dominant cause" (paragraph H2) of Adam's death
- (3) The significance of Dr. Dyer's statement for the issues to be considered by the Inquiry
- (4) Whether there is anything arising that requires further query or investigation
- (5) Whether the statement causes any amendment of your previous expert reports to the Inquiry, and if so, what amendment is required and the reason(s) for the amendment(s).

Comparison of fluid balance assessments

- 5. As you are aware, you recently completed a fluid balance chart showing what you believed to be the fluids received and the fluid lost by Adam both before and during his surgery. The Inquiry also asked other Inquiry expert witnesses and Dr. Robert Taylor to complete a similar chart, and this data has now been included in a comparison table, which is attached.
- 6. The Inquiry team would ask you to:
- (1) Check that your calculations and assumptions have been transcribed correctly onto this comparison table.
- (2) Comment on any differences (if any) that are apparent between your calculations and the other Inquiry expert witnesses.
- (3) Comment on the assumptions and calculations used by Dr. Robert Taylor, particularly in the light of:
 - (a) His previous arguments and
 - (b) His most recent statement

Adam's operation of 18th October 1995

7. Adam had an operation on 18th October 1995 for the insertion of a gastrostomy corpak button and a left orchidopexy. The surgeon was Mr. Syrana and the anaesthetist was Dr. Loan. The consent form can be found at Ref: 058-039-184, the anaesthetic record at Ref: 058-025-069 and the entry in Adam's medical notes at Ref: 058-035-125.

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2.

8. Dr Robert Taylor has stated:

"[Adam] had undergone a shorter procedure on 18th October 1995. I examined the anaesthetic record (058-025-069 to 074) [...] Although there were no fluid calculations performed on this, I noted that 300mls of "1/5 NSaline/4%" were given over approximately 1hr". (WS-008-1, Answer to Q.1(ii))

- 9. He later stated that this record led him to conclude that "Adam could tolerate a large volume of 0.18NaCl/4% Glucose to replace deficit and urine losses." (WS-008-2, Answer to Q.11(c)), that Adam "was not a normal child cause normal children shouldn't cope with 300 ml over an hour" (Ref: 093-038-192) and so Dr. Taylor was "confident [...] by the previous anaesthetic that Adam was exceptional" (Ref: 093-038-193)
- 10. The Inquiry would be grateful on your comment and opinion on the following:
- (1) Whether those were appropriate and/or reasonable conclusions to draw from the anaesthetic record of the operation of 18th October 1995?
- (2) How the anaesthetic record of 18th October 1995 should be read in terms of:
 - (a) How much fluid was given
 - (b) The period of time over which the fluid was given
 - (c) Whether all the fluid noted was actually administered

Composition of the transplant team

- 11. As you are aware, the presence or otherwise of the following are in dispute:
- (1) A dedicated anaesthetic nurse
- (2) A replacement trainee anaesthetist for Dr. Terence Montague
- (3) Dr Rosalie Campbell, Consultant Paediatric Anaesthetist, leaving an operation in the theatre adjacent to Adam's operation to assist with Adam's operation

To that end, it would assist if you were able to provide sample theatre logs from your hospital in 1995, and detail whether you would have expected the identity or involvement of any of the above to have been noted on the logs/notes.

Ligation of the left internal jugular vein

- 12. It has been suggested that a contributor to Adam's fatal cerebral oedema may have been obstruction to venous drainage from the brain. This is based on the following:
- (1) The central venous cannula inserted into the right subclavian vein at induction for his transplant was situated in the right internal jugular vein and may have been obstructed, giving unusually high CVP readings.
- (2) Dr Alison Armour, the pathologist who conducted Adam's autopsy, stated in her report that "there was a suture in situ on the left side of the neck at the junction of the internal jugular vein and the subclavian vein" and "there was no evidence of congestion or obstruction of the major blood vessels or the carotid arteries or jugular veins". (Ref: 059-039-089) She stands by that view in her Inquiry Witness Statement (Ref: WS-012-02, Answer to Question 3(b)(ii)).

13. The Trust has stated that:

"there is [...] no evidence the IJV [internal jugular vein] was ligated in RBHSC. The commentary section of the post mortem report is the only place where it is stated that the IJV is ligated. Ligation is not mentioned in the section on internal examination of the neck." (INQ-0176-10, also INQ-131-05 – letter dated 26th April 2005)

14. In addition, the Trust has stated that:

"... in the 1980s and early 1990s it would have been considered standard practice in RBHSC to ligate the internal jugular vein during insertion of a Broviac or Hickman central venous catheter. In the early 1990s a new technique was introduced whereby the common facial vein was used in order to preserve the patency of the IJV. The typed theatre note of 29/5/92 clearly states that the common facial vein was used, thereby by definition preserving the left IJV. [...] The removal of the [Broviac] line is a relatively simple procedure which would not have required exploration of the neck. The Broviac line is removed by traction at the exit site (in this case left anterior chest wall.) The anaesthetic record (057-077) shows total anaesthetic time of 20 minutes. This would not allow time for an unrecorded surgical exploration of the neck with ligation of the IJV." (INQ-0176-10)

15. Please find attached a schedule of Adam's surgical procedures. As a guide, your attention is drawn to the following operations involving the insertion of a central and/or Broviac line:

DATE	PROCEDURE	SURGEON(S)	REFERENCE
23-11- 1991	Ureteric reimplantation and insertion of suprapubic catheter	Stephen Brown	Medical Notes 049-029-081

28-11- 1991	Laparotomy, T tube drainage of ureters and insertion of peritoneal dialysis cannula	Stephen Brown	Consent Form 049-034-235 Operation Note 050-021-060 Anaesthetic Record 049-028-073
08-12- 1991	Cystoscopy, laparotomy and left nephrostomy, Insertion of Broviac Line	Victor Boston	Consent Form 049-034-237 Operation Note 050-008-031 Medical Notes 049-029-097 Anaesthetic Record 049-026-063
28-12- 1991	Insertion of Central Line	Refsum Roy McConnell	Operation Note 050-015-047 Medical Notes 050-023-073 Anaesthetic Record 049-006-013
29-05- 1992	Insertion of Broviac line, Cystoscopy and Retrograde Pyelogram	W.A. McCallion Stephen Brown RJ Stewart	Operation Note 053-015-052 Medical Notes 054-057-131
09-02- 1995	Removal of Broviac line	Saad	Consent Form 057-114-335 Medical Notes 057-102-189 Anaesthetic Record 057-077-141

- 16. The Inquiry team would like you to examine Adam's schedule of surgical procedures, and the relevant notes and records if necessary, and comment on whether there was any previous occasion during which a suture was likely to have been placed in Adam's left internal jugular vein.
- 17. In particular, the Inquiry would like you to address the following queries, having regard to Adam's previous surgical procedures:
- (1) The likely explanation for why Dr. Armour identified "a suture in situ on the left side of the neck at the junction of the internal jugular vein and the subclavian vein" and when it was likely to have been placed.
- (2) In the light of the note of the procedure on 29th May 1992 and the witness statements of those involved in it (McCallion (WS-232/1), Brown (WS-007/4) and Stewart (WS-228/1), how likely it was that a mistake could have been made between the left common facial vein and the left internal jugular vein.
- (3) How likely it would be that the suture referred to in the note of the procedure on 1992, the left common facial vein is noted as being ligated with " $5 \times OPDS$ ", would still be in existence in November 1995?
- (4) Dr Mary O'Connor in her witness statement to the Inquiry (WS-014-1, Answer to Q.2) states:

"I assumed that [Adam] may have had one of his external jugular veins tied off as this was common practice at the time of insertion of central lines in RBHSC in 1995."

204-007-342

Was it common practice in 1995 when central lines were being inserted for one of the external jugular veins to be tied off?

Dr Armour's autopsy report

18. In Dr Alison Armour's autopsy report, she states in relation to the external examination of Adam's neck:

"Neck: There was a needle puncture mark on the left side. There was a healed operation scar, 3 cm. long, on the left side. There were two further healed operation scars on the right side, 2.5 cm. long." (Ref. 011-010-037)

19. The Inquiry would be grateful if you would provide a diagram of the marks on Adam's neck as identified in Dr. Armour's autopsy report, explaining where the various lines had previously been inserted and the surgical procedure to which they correspond. Please refer as appropriate to the schedule of surgical procedures.

Adam's vital signs during the renal transplant operation

- 20. It would be useful for the Inquiry if you would be able to provide the normal range of the following values you would expect for a child of Adam's height and weight during a renal transplant operation:
 - Heart rate
 - Blood pressure

Further issues

21. Please comment on whether there are any further issues in Adam's case you would like to see the Inquiry consider investigating further, or in greater detail.

Procedures at oral hearings

- 22. The following Inquiry's procedural documents are available on the Inquiry website under Guidance however some of theses are likely to change in near future:
 - General Procedures of the Inquiry
 - Oral Hearing Procedures
 - Protocol No 1 Interested Parties
 - Protocol No 2 Documents

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EXPERTS

- Protocol No 3 Witnesses
- Protocol No 4 Experts
- Protocol No 5 Costs
- Protocol No 6 Disclosure
- 23. Should you have any issues or queries arising from your participation in the oral hearings, please do not hesitate to contact the Inquiry.

Attached documents

- 24. The following documents are attached for your assistance:
- (1) Dr. Robert Taylor's sixth Witness Statement to the Inquiry
- (2) Dr. Leslie Dyer's Witness Statement to the Inquiry
- (3) Comparison chart of fluid balance calculations
- (4) Schedule of Adam's surgical procedures and admissions
- 25. Please advise us if there are any other documents that you require.

Conclusion

- 26. It is of fundamental importance that the Inquiry receives a clear and reasoned opinion on these issues.
- 27. Your assistance on the Inquiry's requirements should be provided in the form of an Expert's Report (please reference if necessary).

Adam's daily fluid balance

				Daily (24 hr period)	y riod)		
	Haynes	Gross	Coulthard	Sumner ¹	Taylor	Savage	ıge
Weight	20 kg	20 kg	19 kg		21 kg	$21kg^2$	g^2
Surface area	$0.8\mathrm{m}^2$	$0.8~\mathrm{m}^2$	$0.8 \mathrm{m}^2$		$0.75 \mathrm{m}^2$	$0.75 \mathrm{m}^{23}$	$ m m^{23}$
Adam's usual daily intake (known)				Enteral intake = 2100ml per day	100ml per day		
Fluid losses						Inquiry WS ⁴	Letter to Dr. George Murnaghan dated 07/06/96 ⁵
a) Insensible losses	$[400 \text{ml/m}^2]$ $400 \times 0.8 =$ 320 ml	$[400 \text{ml/m}^2]$ $400 \times 0.8 =$ 320 ml	[300ml/day/m ²] 300*0.8= 240 ml	400-500ml	[300ml/day/m ²] 300x0.75 = 225 ml	[300ml/day/m²]	300ml-400ml
b) Urine output (assumption that = 2100ml - insensible loss - dialysis losses)	[1380ml/day] = 57.5 ml/h	[1350ml/day] =56.3 ml/h	[1500ml/day] = 62 ml/h	[<75ml/kg/day = 1500 ml/day] = ≤62.5 ml/h	[1875ml/day] =78.1 ml/h	[1200mls—1500mls] 50ml/hr to 62.5ml/hr	70-75ml/hr
c) Dialysis loss (15 cycles)	400 ml	290 ml	Up to 292 ml	100-200 ml		$400\mathrm{ml}$	
d) Faecal loss		100 ml	68 ml				

¹ Ref. 059-054-114

² Ref. 059-006-011

³ Answer to WS-002-3, Q.36(b) at p.39

⁴ Answer to WS-002-2, Q.10(d) at p.18

⁵ Ref. 059-003-005

Adam's perioperative fluid balance

& anaesthesia	Taylor		20 ml	156 ml	0	176 (793) ml	0 (970) ml	-176 (177) ml	Na+ content of fluids given: None given Na+ content of losses: Urine estimate= 30- 40 mmol/1 Insensible Loss= 0mmol/1
Time between start of preoperative fasting period & anaesthesia $0500-0700 = 2 \text{ h}$	Coulthard		20 ml	124 ml	0	144 (744) ml	0 (952) ml	-144 (8 to 308) ml	Input= 0 mmol Na+ Output = Insensible Na approx 0 + urine likely to be 75/1 = 9 Na loss Na balance = -9 (Thus cumulatively likely to be overall approx 0 i.e. went to theatre in
start of preoper 0500-	Gross		42 ml	112ml	0	154 ml	0 ml	-154 ml	Na ⁺ content of fluids given: 0 mmol Na ⁺ content of losses: 7.4 mmol
Time between	Haynes		27 ml	115 ml	0	142 (851) ml	0 (952) ml	-142 (101) ml	Na ⁺ content of fluids given: nil Na ⁺ content of losses: urine 4.6 mmol
re fasting	Taylor		[300ml/day/m²] (300x0.75)x7/24 70 ml	[18/5ml/day] =78.1 ml/h 78.1 x 7 = 547 ml	0	617 (617) ml	970 (970) ml	353 (353) ml	Na+ content of fluids given: 0.18NaCl/4% Glucose: 30mmol/1 Dioralyte=35 mmol/1 Na+ content of losses: Urine estimate= 30-40 mmol/1 Insensible Loss= 0mmol/1
Time between ward admission & start of preoperative fasting $2200-0500 = 7 \text{ h}$	Coulthard		$[300\text{m}/\text{day/m}^2]$ (300*0.8)x7/24 = 70 ml	[1500ml/day] = 62 ml/h 62 x 7 = 434 ml	Much less than 292 ml	500-800 (most likely 600) (600)	952 (952) ml	152-452 (152-452)	Input= Dioralyte 953ml = 57 mmol Na+Output= Insensible Na approx 0 + urine likely to be 75/1 = 33 Na loss + dialysis likely to be 130/1 = <38 Na loss Na balance = less than 14 mmol deficit (PD loss likely to be much less than 38, so prob in POS Na
een ward admissi 2200	Gross		[1.05 ml/kg/h] = 147 ml	[2.8 ml/kg/h] = 392 ml	154 ml	693 ml	970 ml	277 ml	Na ⁺ content of fluids given:59.5 mmol Na ⁺ content of losses:44.3 mmol
Time betw	Haynes		$[400\text{ml/m}^2/\text{day}]$ $(400\times0.8)\times7/24 =$ 93 ml	[1380ml/day] = 57.5 ml/h 57.5 x 7 = 403 ml	8/15 x 400 = 213ml	709 (709) mI	952 (952) ml	243(243) ml	Given as Dioralyte (60 mmol Na+/1 Urine Na+ assumed 40 mmol/1 Na+ given= 57 mmol Na+ content of losses: urine=16 mmol Dialysis=30 mmol
		Fluid losses	a) Insensible losses	b) Urine output (assumption that = 2100ml - insensible loss -	c) Dialysis losses/ (received 8 of	Total (cumulative)	Actual (cumulative) fluid input	Estimated (cumulative) fluid excess	Comments + relevant information regarding Na ⁺ content of: a) input fluids b) losses

((((
	The positive	Flui	Fluid input		The fluid and	The fluid and Overall, estimated	
Reasons why	fluid balance	exce	exceeded		sodium gains	water balance pre-	
planned fluid	should be	esti	estimate loss due		from the	op is close to	
infusion	watched. It	to ti	to the fact that		preceding	ZERO from +12 to	
(content or	should not	urin	urine losses had		period are	312 ml	
infusion rate)	increase much	סכנו	occurred during		diminished		
should change	further.	the	the day prior to		by the small	Overall, the	
due to change		adn	admission and		present	estimated Na	
in estimated		10M	would normally			balance pre-op is	-
loss		hav	have been		small	also quite close to	
		rep	replaced by		to:	ZERO, given the	
•		ivig	giving 1500mls of			unknowns	
-		feec	feed overnight.		excess (by	including the UF	
)		120 ml)	value and the	
					remains	urine sodium	
		-			however.	concentration.	
			-				
-						Therefore	
-						reasonable to	
						assume that Adam	
						went to theatre in	
						approx normal salt	
						and water balance.	

Adam's perioperative fluid balance

	Time betwee	n induction of anaesthe 0700-0800 = 1 h	Time between induction of anaesthesia & start of surgery $0700-0800 = 1 \text{ h}$	ıf surgery	Time from	Time from start of surgery until vascular clamps on 0800-1000 = 2 hr	ntil vascular cl.: 2 hr	amps on
	Haynes	Gross	Coulthard	Taylor	Haynes	Gross	Coulthard	Taylor
Fluid losses								
a) Insensible losses	14 ml	21 ml	10 ml	10 ml	Basal losses = 27 ml	[0.5 ml/kg/h] = 20 ml	20 ml	2-4ml/kg/h = 84-168 ml
					Evaporative losses from wound = $4ml/kg/h = 160 ml$			
b) Urine output	58 ml	56 ml	62 ml	78 ml	115 ml	112 ml	Up to 124 ml	156 ml
(assumption that= 2100ml-			-					
insensible loss- dialysis losses)								
c) Blood loss	0	0	0	0	600 ml	518 ml	600 ml	Approx 800 ml
Total	72 (923) ml	[77] ml	72 (816) ml	88 (881) ml	902 (1825) ml	650 ml	Up to 744	1040-1124 (1921-
(cumulative) fluid losses							(1560) ml	2005) ml
Actual	750 (1702) ml	[650] mJ	750 (1702) ml	750 (1720) ml	2300 (4002) ml	1750 ml	2300 (4002) m1	1950 (3670) ml
fluid input					750 ml 0.18% NaCl			400 ml 0.18% NaCl
					/ 4 % Glucose, 500 ml Hartmann's			/ 4% Glucose 500ml Hartmann's
					800 ml HPPF 250 ml Blood	•		800ml HPPF 250ml Blood
Estimated	lm (977) 879	573 ml	678 (686 to 986)	662 (839) ml	1398 (2177) ml	1100 ml	1556 (2242-	826-910 (1665-1749)
(cumulative) fluid excess							2542) ml	ml

					The second secon			1
Comns +	Received 750 ml	Na ⁺ content of	L, c=31	Na+ content of	Na ⁺ content of 1. 1s	Na ⁺ content of	Input $= 226$	Na ⁺ cont. of
relevant	0.18% saline/4%	fluids given:16	mmol/l = 23	fluids given:	given: 0.18% NaCl	fluids given:	mmol Na+	fluids given: 0.18%
information	glucose	lomm	mmol Na+	0.18NaCl/4%	/4% Glucose:	173 mmol		NaCl /4% Glucose:
regarding Na ⁺	Na ⁺ content of			Glucose:	30mmol/1		Output =	30mmol/1
content of:	fluids given = 23	Na ⁺ content of	Output =	30mmol/1	Hartmann's:	Na ⁺ content of	blood 78 +	Hartmann's:
a) input	mmol	losses:3.4	Insensible Na	Dioralyte=35	131mmol/1	losses: 71 mmol	urine =	130mmol/1
fluids		lomm	approx 0, +	mmol/1	HPPF: 130mmol/1		approx 9	HPPF: 130-
p) losses	Na⁺ content of		urine likely to		Blood: 130 mmol/1		mmol total.	150mmol/1
	losses: urine:2.3		be $75/1 = 5 \text{ Na}$	Na+ content of	Na ⁺ content of fluids			Blood: 135-145
	mmol		loss	losses:	given: 202 mmol		Na balance	mmol/1
			Na balance =	Urine)		= +139	
			+28	estimate= 30-	Na ⁺ content of losses:			Na ⁺ content of
			(If accept arrival	40 mmol/1	83 mmol			losses:
			in theatre in	Insensible				Urine estimate: 30-
			approx NA	Loss= 0mmol/1				40 mmol/1
			balance, now					
	-		cumulative Na				•	
			balance = $+28$					
			ml)					
	Since 2200h	The total water	Cumulative Na	I had planned	Note cumulative fluid	The previous		I had planned to
Reasons why	previous evening	excess	and water	to correct fluid	excess of 2177 ml at	positive (total)		increase the
planned fluid	has gained 779 ml	(considering	balance since	deficit and	end of this period.	fluid balance		circulating blood
infusion	fluid. There was	the total fluid	induction of	increase the	This may be more	(lm 969)		volume at this
(content or	no fluid deficit at	excess of 696	anaesthesia,	circulating	since the blood	increased by a		stage. There were
infusion rate)	the start of	ml and the	assuming he	blood volume	volume lost may well	further 1100		insensible operative
should change	anaesthesia, the	total sodium	was in balance	at this stage.	be overestimated, and	ml. Because of		losses of
due to change	0.18% saline /	excess of 20.4	on arrival in	•	the allowance for	the present		approximately
in estimated	glucose given to	mon si (lomm	theatre IS:		evaporative loss is	positive		4ml/kg/hr during
loss.	Adam will have	555 ml.	Water: +678		generous. Adam's	sodium balance		open abdominal
	diluted the		Na: +28		kidneys cannot	(102 mmol) the		surgery. Blood
	sodium present in		Concentration of		respond to make extra	previous (total)		transfusion given at
	his serum. His		the accumulated		urine. Too much fluid	positive water		this stage to
	kidneys cannot		fluid therefore =		has been given, and	balance (555		increase the
	respond to lose		28/678 = 41		although a lot of Na+	ml) is now		haemoglobin.
	the excess water		mmol/l		given, it is too dilute,	increased by an		
	he has been	•			resulting in a	additional 372		
	given.				lowering of the serum	ml.		
					sodium as measured	1 20		
					at 0932n.			

Adam's perioperative fluid balance

nd of surgery	Taylor		42-84 ml		78 ml	Approx 211 ml (1211 ml total)	331-373(2512-2659) ml	400 (4070) ml	150ml 0.18% NaCl /4% Glucose	250ml Blood	27-69 (1511-1658)ml	Na ⁺ content of fluids given: 0.18% NaCl /4%	Glucose: 30mmol/1 Blood: 135-145 mmol/1	N1-+	Urine estimate: 30-40	mmol/1
Time from when clamps released until end of surgery $1030-1130 = 1 \text{ hr}$	Coulthard		10 ml		Up to 62 ml	328 ml	Up to 400 (2196) ml	250 (4452) ml			-150 (1956-2256) ml	Input = 33 mmol Na+	Output = blood	43 + urine =	approx 3 mmoi total	Na balance = -15
from when clas	Gross		10ml		56 ml	259 ml	325 ml	400ml		·	75ml	Na ⁺ content of fluids	given:44.8 mmol	+	of losses:36	mmol
Time	Haynes		Basal losses = 14 ml	Evaporative losses from wound = 80 ml	58 ml	328 ml	480 (2581) ml	250 (4452) ml	250 ml Blood		-230 (1771) ml	Na ⁺ content of fluids given: 35	mmols	Na ⁺ content of	iosses: 4/ mmols	
lied	Taylor	•	21-42 ml		39 ml	Approx 200 ml	260-281 (2181- 2286) ml	100 (3760) ml	100ml 0.18% NaCl/4% Glucose		-160181 (1484- 1589)ml	Na ⁺ content of fluids given: 0.18%	NaCl /4% Glucose:	J - J + - I N	losses:	Urine estimate: 30-40 mmol/1
Time while vascular clamps applied 1000-1030 = 0.5 hr	Coulthard		5 ml		Up to 31 ml	200 ml	Up to 236 (1796) ml	200 (4202) ml			-136 (2106- 2406) ml	Input = 26 mmol Na+	Output = blood	26 + urine =	approx 2 mmol total	Na balance = -2
Time while va	Gross		5ml		28 ml	130 ml	163 ml	200ml	1 - 2		37ml	Na ⁺ content of fluids	given:15.8 mmol	+	of losses:18	mmol
	Haynes		Basal losses = 7 ml	Evaporative losses from wound = 40 ml	29 ml	200 ml	276 (2101) ml	200 (4202) ml			-176 (2001) ml	Na ⁺ content of fluids	given: 26 mmols	+	of losses: 27.2	mmol
		Huid losses	a) Insensible losses		b) Urine output	c) Blood loss	Total (cumulative) fluid losses	Actual (cumulative)	fluid input		Estimated (cumulative) fluid excess	Comments + relevant	information regarding Na ⁺	content of:	b) losses	

⁶ Note that Haynes uses time period 1030-1100 and 1100-1215 – the numbers are therefore extrapolated from his periods. The most affected figure by this is the evaporative losses which doubles when using Taylor's time periods.

											-																						
	This was done	maintain the circulating	blood volume at this	stage following release	of the clamps. Blood	transfusion given at this	stage.										-																
	The cumulative	Na and water	balance since	induction of	anaesthesia,	carrying forward	the 07:00 to 08:00	values above, is	therefore:		Minimum water	excess = 1956		Sodium excess =	150	OCT	The concentration	of the	accumulated	fluid therefore =	maximum of	150/1948 = 77	mmol/1		This is equivalent	to retaining	1071ml of fluid	with a	physiological Na	concentration of	140 mmol/l and	an extra 885 ml of	water.
	a, l	previous	(total)	positive	fluid	balance	increased by	75 ml. In	view of the	positive	sodium	balance in	this period	the positive	(total) water	balance may	be said to	have	remained	unchanged.		-				-							
																					-								-				
					-																												
•	The	previous	positive	water	balance (927	mI)	increased	mildly by 37	ml.									•															
			-			•																		-			-						
	Reaso. why	planned fluid	infusion	(content or	infusion rate)	should change	due to change	in estimated	loss								,																

Adam's postoperative fluid balance

SCHEDULE OF ADAM STRAIN'S SURGICAL PROCEDURES

T	DATE	PROCEDURE	SURGEON(S)	ANAESTHETIST(S)	REFERENCE
1	23.11.1001	Ureteric reimplantation and insertion of suprapubic catheter	Stephen Brown	Unknown	Medical Notes 049-029-081
1		Laparotomy, T tube drainage of ureters and insertion of peritoneal dialysis cannula	Stephen Brown	Gallagher	Consent Form 049-034-235 Operation Note 050-021-060 Anaesthetic Record 049-028-073
2	08-12-1991	Cystoscopy, laparotomy and left nephrostomy, Insertion of Broviac Line	Victor Boston	Peter Crean	Consent Form 049-034-237 Operation Note 050-008-031 Medical Notes 049-029-097 Anaesthetic Record 049-026-063
3	20-12-1991	Trans uretero-ureterostomy left to right	Stephen Brown Robert Gilliland	Robert Taylor Kelly	Consent Form 049-034-236 Operation Note 050-008-035 Medical Notes 049-029-088 Anaesthetic Record 049-013-024
4	24-12-1991	Laparotomy	Stephen Brown	Robert Taylor McCarthy	Consent Form 049-011-023 Medical Notes 050-023-071 Anaesthetic Record 049-009-019
6	28-12-1991	Insertion of Central Line	Refsum Roy McConnell	Browne	Operation Note 050-015-047 Medical Notes 050-023-073 Anaesthetic Record 049-006-013
7	28-01-1992	Endoscopy, removal of suprapubic catheter and insertion of Foley catheter	Stephen Brown Mark Dalzell	T. Auterson	Consent Form 050-036-299 Medical Notes 050-023-084 Anaesthetic Record 050-005-006
8	25-02-1992	Cystoscopy & pH studies	Stephen Brown	Robert Taylor	Consent Form 050-036-299 Medical Notes 052-023-046 Anaesthetic Record 050-020-058
9	16-03-1992	Fundoplication	RJ Stewart	Gallagher	Consent Form 050-030-288 Medical Notes 052-023-051 Operation Notes 050-008-033
10	29-05-1992	Insertion of Broviac line, Cystoscopy and Retrograde Pyelogram	W.A. McCallion Stephen Brown RJ Stewart	Peter Crean McCarthy	Operation Note 053-015-052 Medical Notes 054-057-131
11	05-06-1992	Insertion of urinary catheter and ultrasound investigation of renal tract	Stephen Brown	McCarthy	Consent Form 053-002-002 Medical Notes 054-057-134 Anaesthetic Record 053-012-042
12	01-12-1992	Upper endoscopy	Mark Dalzell	Gallagher	Consent Form 054-007-017 Medical Notes 054-057-149 Anaesthetic Record 054-039-091
13	08-02-1993	Cystoscopy	Stephen Brown	Gallagher	Consent Form 055-056-241 Medical Notes 055-058-108 Anaesthetic Record 054-027-065
14	21-04-1993	Cystoscopy & Retrograde Pyelogram and Insertion of PEG tube	Victor Boston Misra	Peter Crean	Consent Form 055-056-242 Medical Notes 055-053-120 Operation Note 055-046-093
15	16-09-1993	Gastroscopy	Dalzell	McAllister	Consent Form 055-005-007 Medical Notes 055-053-129 Anaesthetic Record 055-032-060
16	23-03-1994	PEG gastrostomy and CAPD catheter insertion	Victor Boston	Peter Crean Boyd	Consent Form 056-041-151 Medical Notes 056-037-088 Operation Note 055-010-017 Anaesthetic Record 055-013-023
(24-08-1994	Insertion of Peritoneal Dialysis line	Victor Boston Chew	Kielty Darling	Consent Form 056-041-152 Medical Notes 057-102-181 Anaesthetic Record 056-021-042

SCHEDULE OF ADAM STRAIN'S SURGICAL PROCEDURES

17	09-02-1995	Removal of Broviac line	Saad		Consent Form 057-114-335 Medical Notes 057-102-189 Anaesthetic Record 057-077-141
18	09-07-1995	Removal of gastrostomy tube & reinsertion of new tube	Kealy		Consent Form 057-114-333 Medical Notes 058-033-119 Anaesthetic Record 057-028-047
19	21-09-1995	Reinsertion of gastrostomy	Acton	Loan	Consent Form 058-114-334 Medical Notes 058-035-127 Anaesthetic Record 058-031-102
20	18-10-1995	Insertion of Gastrostomy corpak button & left orchidopexy	Syrana		Consent Form 058-039-184 Medical Notes 058-035-125 Anaesthetic Record 058-025-069
21	27-11-1995	Kidney Transplant	Patrick Keane Stephen Brown	Robert Taylor Terence Montague	Consent Form 058-039-185 Medical Notes 058-035-134 Anaesthetic Record 058-003-007

KEY

Day Admission

Admission Date

Period in Hospital

Discharge Date

Aug-1991		Sep-1991		Oct-1991		Nov-1991		Dec-1991	
01/08/1991		01/09/1991		01/10/1991		01/11/1991		01/12/1991	March 1995
02/08/1991		02/09/1991		02/10/1991		02/11/1991		02/12/1991	
03/08/1991		03/09/1991	Renal Clinic	03/10/1991		03/11/1991		03/12/1991	
04/08/1991	Adam Strain born	04/09/1991		04/10/1991		04/11/1991		04/12/1991	
05/08/1991		05/09/1991		05/10/1991		05/11/1991		05/12/1991	
06/08/1991		06/09/1991		06/10/1991		06/11/1991		06/12/1991	
07/08/1991		07/09/1991		07/10/1991		07/11/1991	-	07/12/1991	
08/08/1991		08/09/1991		08/10/1991		08/11/1991		08/12/1991	Cystoscopy, laparotomy, left nephrostomy, Central line Surgeon: Mr Boston Anaesthetist: Dr Crean
09/08/1991		09/09/1991		09/10/1991		09/11/1991		09/12/1991	Moved to Musgrave Clinic, RBHSC
10/08/1991		10/09/1991		10/10/1991		10/11/1991		10/12/1991	
11/08/1991		11/09/1991		11/10/1991		11/11/1991		11/12/1991	建设建设在工程的
12/08/1991	Day Attendance - Management of Renal Failure	12/09/1991		12/10/1991		12/11/1991		12/12/1991	
13/08/1991		13/09/1991		13/10/1991		13/11/1991		13/12/1991	
14/08/1991		14/09/1991		14/10/1991		14/11/1991		14/12/1991	
15/08/1991		15/09/1991		15/10/1991	Emergency Admission to Musgrave Ward, RBHSC Management of Renal Failure	15/11/1991		15/12/1991	
16/08/1991		16/09/1991		16/10/1991		16/11/1991		16/12/1991	
17/08/1991		17/09/1991		17/10/1991		17/11/1991		17/12/1991	
18/08/1991		18/09/1991		18/10/1991	Discharged to UHD	18/11/1991		18/12/1991	
19/08/1991		19/09/1991		19/10/1991	-	19/11/1991		19/12/1991	
20/08/1991		20/09/1991		20/10/1991		20/11/1991		20/12/1991	Trans uretero-ureterostomy left to right Surgeon: Mr Brown, Mr Gilliland Anaesthetist: Dr Taylor, Dr Kelly
21/08/1991		21/09/1991		21/10/1991		21/11/1991		21/12/1991	Moved to Musgrave Clinic, RBHSC
22/08/1991		22/09/1991		22/10/1991		22/11/1991		22/12/1991	Exercise Control
23/08/1991		23/09/1991		23/10/1991		23/11/1991	Ureteric Implantation with suprapubic catheter insertion. Surgeon: Mr Brown (Procedure took place at Ulster Hosp)	23/12/1991	
24/08/1991		24/09/1991		24/10/1991		24/11/1991		24/12/1991	Laparotomy Surgeon: Mr Brown Anaesthetist: Dr Taylor, Dr McCarthy
25/08/1991		25/09/1991		25/10/1991		25/11/1991		25/12/1991	
26/08/1991		26/09/1991		26/10/1991		26/11/1991	Admitted to Musgrave Ward, RBHSC	26/12/1991	
27/08/1991		27/09/1991		27/10/1991		27/11/1991		27/12/1991	
28/08/1991		28/09/1991		28/10/1991		28/11/1991	Laparotomy, T tube drainage of ureters & insertion of peritoneal dialysis cannula Surgeon: Mr Brown Anaesthetist: Dr Gallagher	28/12/1991	Insertion of Central Line Surgeon: Miss Refsum, Dr R McConnell Anaesthetist: Dr Browne
29/08/1991		29/09/1991		29/10/1991		29/11/1991		29/12/1991	KROPAL SERVICE
30/08/1991		30/09/1991		30/10/1991		30/11/1991		30/12/1991	Bertale 1
31/08/1991				31/10/1991				31/12/1991	

Jan-1992		Feb-1992		Mar-1992		Apr-1992		May-1992		Jun-1992		Jul-1992	
01/01/1992		01/02/1992		01/03/1992		01/04/1992		01/05/1992		01/06/1992		01/07/1992	Renal Clinic
02/01/1992		02/02/1992		02/03/1992		02/04/1992		02/05/1992		02/06/1992		02/07/1992	
03/01/1992		03/02/1992		03/03/1992		03/04/1992		03/05/1992		03/06/1992		03/07/1992	
04/01/1992		04/02/1992		04/03/1992		04/04/1992		04/05/1992		04/06/1992		04/07/1992	
05/01/1992		05/02/1992		05/03/1992		05/04/1992		05/05/1992		05/06/1992	Insertion of urinary catheter and investigation of renal tract (uss) Surgeon: Mr Brown Anaesthetist: Dr McCarthy	05/07/1992	
06/01/1992		06/02/1992		06/03/1992		06/04/1992		06/05/1992		06/06/1992	Discharged from Musgrave Ward, RBHSC	06/07/1992	
07/01/1992		07/02/1992		07/03/1992		07/04/1992		07/05/1992	Discharged from Musgrave Ward, RBHSC	07/06/1992		07/07/1992	
08/01/1992		08/02/1992		08/03/1992		08/04/1992		08/05/1992		08/06/1992		08/07/1992	
09/01/1992		09/02/1992		09/03/1992		09/04/1992		09/05/1992		09/06/1992		09/07/1992	
10/01/1992		10/02/1992		10/03/1992		10/04/1992		10/05/1992		10/06/1992		10/07/1992	
11/01/1992		11/02/1992		11/03/1992		11/04/1992		11/05/1992		11/06/1992		11/07/1992	
12/01/1992		12/02/1992		12/03/1992		12/04/1992				12/06/1992		12/07/1992	
13/01/1992		13/02/1992		13/03/1992		13/04/1992		13/05/1992	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	13/06/1992		13/07/1992	
14/01/1992		14/02/1992	Section Measurement	14/03/1992		14/04/1992		14/05/1992		14/06/1992		14/07/1992	
15/01/1992		15/02/1992		15/03/1992		15/04/1992		15/05/1992		15/06/1992		15/07/1992	
16/01/1992		16/02/1992		16/03/1992	Fundoplication Surgeon: R J Stewart Anaesthetist: Dr Gallagher	16/04/1992		16/05/1992		16/06/1992		16/07/1992	
17/01/1992		17/02/1992		17/03/1992	Moved to Barbour Ward, RBHSC		Discharged from Musgrave Ward, RBHSC	17/05/1992	Discharged from Musgrave Ward, RBHSC	17/06/1992		17/07/1992	
18/01/1992		18/02/1992		18/03/1992		18/04/1992		18/05/1992		18/06/1992		18/07/1992	
19/01/1992		19/02/1992		19/03/1992		19/04/1992		19/05/1992		19/06/1992		19/07/1992	
20/01/1992		20/02/1992		20/03/1992		20/04/1992	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	20/05/1992		20/06/1992		20/07/1992	
21/01/1992		21/02/1992	T-2005	21/03/1992		21/04/1992		21/05/1992	Admitted to Musgrave Ward, RBHSC	21/06/1992		21/07/1992	Renal Clinic
22/01/1992		22/02/1992	Company of the same of	22/03/1992		22/04/1992		22/05/1992		22/06/1992		22/07/1992	
23/01/1992		23/02/1992	Control of the Control	23/03/1992		23/04/1992		23/05/1992		23/06/1992	Renal Clinic	23/07/1992	
24/01/1992		24/02/1992		24/03/1992		24/04/1992		24/05/1992		24/06/1992		24/07/1992	
25/01/1992		25/02/1992	Cystoscopy, & pH studies Surgeon: Mr Brown Anaesthetist: Dr Taylor	25/03/1992		25/04/1992		25/05/1992		25/06/1992		25/07/1992	
26/01/1992		26/02/1992		26/03/1992		26/04/1992	Discharged from Musgrave Ward, RBHSC	26/05/1992		26/06/1992		26/07/1992	
27/01/1992	Approximation of the second	27/02/1992		27/03/1992		27/04/1992		27/05/1992		27/06/1992		27/07/1992	
28/01/1992	Endoscopy - Dr Dazell Removal suprapubic catheter,	28/02/1992		28/03/1992		28/04/1992		28/05/1992		28/06/1992		28/07/1992	
29/01/1992		29/02/1992		29/03/1992		29/04/1992		29/05/1992	Insertion Broviac Line, Cystoscopy & Retrograde pyelogram Surgeons: Mr McCallion, Mr R J Stewart, Mr S Brown Anaesthetist: Dr McCarthy, Dr Crean	29/06/1992		29/07/1992	
30/01/1992				30/03/1992		30/04/1992	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	30/05/1992		30/06/1992		30/07/1992	
And the second second second second			The same of the sa	-			The second secon						Day Admission to

Aug-1992		Sep-1992		Oct-1992		Nov-1992		Dec-1992	
01/08/1992		01/09/1992		01/10/1992		01/11/1992		01/12/1992	Upper Endoscopy Surgeon: Dr Dazell Anaesthetist: Dr Gallagher
02/08/1992		02/09/1992		02/10/1992		02/11/1992		02/12/1992	
03/08/1992		03/09/1992		03/10/1992		03/11/1992		03/12/1992	
04/08/1992		04/09/1992		04/10/1992		04/11/1992		04/12/1992	Discharged from Musgrave Ward, RBHSC
05/08/1992		05/09/1992		05/10/1992		05/11/1992		05/12/1992	
06/08/1992		06/09/1992		06/10/1992		06/11/1992		06/12/1992	
07/08/1992		07/09/1992		07/10/1992		07/11/1992		07/12/1992	
08/08/1992		08/09/1992	Renal Clinic			08/11/1992		08/12/1992	
09/08/1992		09/09/1992		09/10/1992		09/11/1992		09/12/1992	
10/08/1992		10/09/1992		10/10/1992		10/11/1992	Renal Clinic	10/12/1992	
11/08/1992		11/09/1992		11/10/1992		11/11/1992		11/12/1992	
12/08/1992		12/09/1992		12/10/1992		12/11/1992		12/12/1992	
13/08/1992		13/09/1992		13/10/1992	Renal Clinic	13/11/1992		13/12/1992	
14/08/1992		14/09/1992		14/10/1992		14/11/1992		14/12/1992	
15/08/1992		15/09/1992		15/10/1992		15/11/1992		15/12/1992	Renal Clinic
16/08/1992		16/09/1992	Renal Clinic	16/10/1992		16/11/1992		16/12/1992	
17/08/1992		17/09/1992		17/10/1992		17/11/1992		17/12/1992	
18/08/1992		18/09/1992		18/10/1992		18/11/1992		18/12/1992	
19/08/1992		19/09/1992		19/10/1992		19/11/1992		19/12/1992	Renal Clinic
20/08/1992		20/09/1992		20/10/1992	Emergency Admission to Musgrave Ward, RBHSC Management of Renal Failure	20/11/1992		20/12/1992	
21/08/1992		21/09/1992		21/10/1992		21/11/1992		21/12/1992	
22/08/1992		22/09/1992		22/10/1992		22/11/1992		22/12/1992	
23/08/1992		23/09/1992		23/10/1992	ELECTRONIC SECTION OF THE SECTION OF	23/11/1992		23/12/1992	
24/08/1992		24/09/1992		24/10/1992		24/11/1992		24/12/1992	
25/08/1992	Renal Clinic	25/09/1992		25/10/1992		25/11/1992	Renal Clinic	25/12/1992	
26/08/1992		26/09/1992		26/10/1992		26/11/1992	Admitted to Musgrave Ward, RBHSC	26/12/1992	
27/08/1992		27/09/1992		27/10/1992		27/11/1992	Benediction and the second	27/12/1992	
28/08/1992		28/09/1992		28/10/1992	Discharged from Musgrave Ward, RBHSC	28/11/1992		28/12/1992	
29/08/1992		29/09/1992		29/10/1992		29/11/1992		29/12/1992	
30/08/1992		30/09/1992		30/10/1992		30/11/1992		30/12/1992	
31/08/1992				31/10/1992				31/12/1992	

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Jan-1993		Feb-1993		Mar-1993		Apr-1993		May-1993		Jun-1993	
01/01/1993		01/02/1993		01/03/1993		01/04/1993		01/05/1993		01/06/1993	
02/01/1993		02/02/1993		02/03/1993		02/04/1993		02/05/1993		02/06/1993	
03/01/1993		03/02/1993		03/03/1993		03/04/1993		03/05/1993		03/06/1993	
04/01/1993		04/02/1993		04/03/1993		04/04/1993		04/05/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	04/06/1993	
05/01/1993		05/02/1993		05/03/1993		05/04/1993		05/05/1993	Discharged from Musgrave Ward, RBHSC	05/06/1995	
06/01/1993	Renal Clinic	06/02/1993		06/03/1993		06/04/1993		06/05/1993		06/06/1993	
07/01/1993		07/02/1993		07/03/1993		07/04/1993		07/05/1993		07/06/1993	
08/01/1993		08/02/1993	Cystoscopy Surgeon: Mr Brown Anaesthetist: Dr Gallagher	08/03/1993		08/04/1993		08/05/1993		08/06/1993	
09/01/1993		09/02/1993		09/03/1993		09/04/1993		09/05/1993		09/06/1993	
10/01/1993		10/02/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	10/03/1993		10/04/1993		10/05/1993		10/06/1993	
11/01/1993		11/02/1993		11/03/1993		11/04/1993		11/05/1993		11/06/1993	
12/01/1993		12/02/1993		12/03/1993		12/04/1993		12/05/1993		12/06/1993	
13/01/1993		13/02/1993		13/03/1993		13/04/1993		13/05/1993		13/06/1993	
14/01/1993		14/02/1993		14/03/1993		14/04/1993	Renal Clinic	14/05/1993		14/06/1993	
15/01/1993		15/02/1993	Discharged from Musgrave Ward, RBHSC	15/03/1993		15/04/1993		15/05/1993		15/06/1993	
16/01/1993		16/02/1993		16/03/1993		16/04/1993		16/05/1993		16/06/1993	
17/01/1993		17/02/1993		17/03/1993		17/04/1993		17/05/1993		17/06/1993	Renal Clinic
18/01/1993		18/02/1993		18/03/1993		18/04/1993		18/05/1993		18/06/1993	
19/01/1993		19/02/1993		19/03/1993		19/04/1993		19/05/1993		19/06/1993	
20/01/1993		20/02/1993		20/03/1993		20/04/1993	Admitted to Musgrave Ward, RBHSC	20/05/1993		20/06/1993	
21/01/1993		21/02/1993		21/03/1993		21/04/1993	Insertion of PEG tube, Cystoscopy & RGP Surgeons: Mr Boston, Mr Misra Anaesthetist: Dr Crean	21/05/1993		21/06/1993	
22/01/1993		22/02/1993		22/03/1993		22/04/1993		22/05/1993		22/06/1993	
23/01/1993		23/02/1993		23/03/1993		23/04/1993	国民世界证据来 国	23/05/1993		23/06/1993	
24/01/1993		24/02/1993		24/03/1993		24/04/1993	AND THE RESERVE OF THE PARTY OF	24/05/1993		24/06/1993	
25/01/1993		25/02/1993		25/03/1993		25/04/1993	Discharged from Musgrave Ward, RBHSC	25/05/1993		25/06/1993	
26/01/1993	Nephrology Clinic	26/02/1993		26/03/1993		26/04/1993		26/05/1993		26/06/1993	
27/01/1993		27/02/1993		27/03/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	27/04/1993		27/05/1993		27/06/1993	
28/01/1993		28/02/1993		28/03/1993		28/04/1993		28/05/1993		28/06/1993	
29/01/1993				29/03/1993		29/04/1993		29/05/1993		29/06/1993	
30/01/1993		1		30/03/1993	Discharged from Musgrave Ward, RBHSC Renal Clinic	30/04/1993		30/05/1993		30/06/1993	Renal Clinic
00/01/1000					I Terial Cillic						k

Jul-1993		Aug-1993		Sep-1993		Oct-1993		Nov-1993		Dec-1993	
01/07/1993		01/08/1993		01/09/1993		01/10/1993		01/11/1993		01/12/1993	
02/07/1993		02/08/1993		02/09/1993		02/10/1993		02/11/1993	Renal Clinic	02/12/1993	
03/07/1993		03/08/1993		03/09/1993		03/10/1993		03/11/1993		03/12/1993	
04/07/1993		04/08/1993		04/09/1993		04/10/1993		04/11/1993		04/12/1993	
05/07/1993		05/08/1993		05/09/1993		05/10/1993		05/11/1993		05/12/1993	
06/07/1993		06/08/1993		06/09/1993		06/10/1993		06/11/1993		06/12/1993	
07/07/1993		07/08/1993		07/09/1993		07/10/1993		07/11/1993		07/12/1993	
08/07/1993		08/08/1993		08/09/1993		08/10/1993		08/11/1993		08/12/1993	
09/07/1993		09/08/1993		09/09/1993		09/10/1993		09/11/1993		09/12/1993	
10/07/1993		10/08/1993		10/09/1993		10/10/1993		10/11/1993		10/12/1993	
11/07/1993		11/08/1993		11/09/1993		11/10/1993		11/11/1993		11/12/1993	
12/07/1993		12/08/1993		12/09/1993		12/10/1993	Renal Clinic			12/12/1993	
13/07/1993		13/08/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	13/09/1993		13/10/1993		13/11/1993		13/12/1993	
14/07/1993		14/08/1993	Discharged from Musgrave Ward, RBHSC	14/09/1993		14/10/1993		14/11/1993		14/12/1993	Nephrology clinic
15/07/1993		15/08/1993		15/09/1993		15/10/1993		15/11/1993		15/12/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure
16/07/1993		16/08/1993		16/09/1993	Day Admission to Musgrave ward, RBHSC Gastroscopy Surgeon: Dr Dalzell Anaesthetist: Dr McAllister	16/10/1993		16/11/1993		16/12/1993	Discharged from Musgrave Ward, RBHSC
17/07/1993		17/08/1993		17/09/1993		17/10/1993		17/11/1993	Admitted to Musgrave Ward, RBHSC Management of Renal Failure	17/12/1993	
18/07/1993		18/08/1993		18/09/1993		18/10/1993		18/11/1993		18/12/1993	
19/07/1993		19/08/1993		19/09/1993		19/10/1993		19/11/1993	Discharged from Musgrave Ward, RBHSC	19/12/1993	
20/07/1993		20/08/1993		20/09/1993		20/10/1993		20/11/1993		20/12/1993	
21/07/1993		21/08/1993		21/09/1993		21/10/1993		21/11/1993		21/12/1993	
22/07/1993		22/08/1993		22/09/1993		22/10/1993		22/11/1993		22/12/1993	
23/07/1993		23/08/1993		23/09/1993		23/10/1993		23/11/1993		23/12/1993	
24/07/1993		24/08/1993		24/09/1993		24/10/1993		24/11/1993		24/12/1993	
25/07/1993		25/08/1993		25/09/1993		25/10/1993		25/11/1993		25/12/1993	
26/07/1993		26/08/1993		26/09/1993		26/10/1993		26/11/1993		26/12/1993	
27/07/1993		27/08/1993		27/09/1993		27/10/1993		27/11/1993		27/12/1993	
28/07/1993		28/08/1993		28/09/1993		28/10/1993		28/11/1993		28/12/1993	
29/07/1993	Renal Clinic			29/09/1993		29/10/1993		29/11/1993		29/12/1993	
30/07/1993		30/08/1993		30/09/1993		30/10/1993		30/11/1993		30/12/1993	
21/07/1002		31/08/1993				31/10/1993				31/12/1993	
31/07/1993		3 1/00/ 1993				0 1/ 10/ 1990				01/12/1885	

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Jan-1994		Feb-1994		Mar-1994		Apr-1994		May-1994		Jun-1994		Jul-1994	
01/01/1994		01/02/1994		01/03/1994	1	01/04/1994		01/05/1994		01/06/1994		01/07/1994	
02/01/1994		02/02/1994		02/03/1994		02/04/1994		02/05/1994		02/06/1994		02/07/1994	
03/01/1994		03/02/1994		03/03/1994		03/04/1994		03/05/1994		03/06/1994		03/07/1994	
04/01/1994		04/02/1994		04/03/1994		04/04/1994		04/05/1994		04/06/1994		04/07/1994	
05/01/1994		05/02/1994		05/03/1994		05/04/1994		05/05/1994		05/06/1994		05/07/1994	
06/01/1994		06/02/1994		06/03/1994		06/04/1994		06/05/1994		06/06/1994		06/07/1994	
07/01/1994		07/02/1994		07/03/1994		07/04/1994		07/05/1994		07/06/1994		07/07/1994	
08/01/1994		08/02/1994		08/03/1994		08/04/1994		08/05/1994		08/06/1994		08/07/1994	
09/01/1994		09/02/1994		09/03/1994		09/04/1994		09/05/1994		09/06/1994	Renal Clinic	09/07/1994	
10/01/1994	-	10/02/1994		10/03/1994		10/04/1994		10/05/1994		10/06/1994		10/07/1994	
11/01/1994	Renal Clinic	11/02/1994		11/03/1994		11/04/1994	N.	11/05/1994		11/06/1994		11/07/1994	
12/01/1994		12/02/1994		12/03/1994		12/04/1994		12/05/1994	Ward Attender	12/06/1994		12/07/1994	
13/01/1994		13/02/1994		13/03/1994		13/04/1994		13/05/1994		13/06/1994		13/07/1994	
14/01/1994		14/02/1994		14/03/1994		14/04/1994		14/05/1994		14/06/1994		14/07/1994	
15/01/1994		15/02/1994	Renal Clinic	15/03/1994		15/04/1994		15/05/1994		15/06/1994		15/07/1994	
16/01/1994		16/02/1994		16/03/1994		16/04/1994		16/05/1994		16/06/1994		16/07/1994	
17/01/1994		17/02/1994		17/03/1994		17/04/1994	Musgrave Ward, RBHSC Mangement of Renal	17/05/1994		17/06/1994		17/07/1994	
18/01/1994		18/02/1994		18/03/1994		18/04/1994	Ward Attender	18/05/1994		18/06/1994		18/07/1994	
19/01/1994		19/02/1994		19/03/1994		19/04/1994		19/05/1994		19/06/1994		19/07/1994	
20/01/1994		20/02/1994		20/03/1994		20/04/1994		20/05/1994		20/06/1994		20/07/1994	
21/01/1994		21/02/1994		21/03/1994		21/04/1994		21/05/1994		21/06/1994		21/07/1994	
22/01/1994		22/02/1994		22/03/1994	Admitted to Musgrave Ward, RBHSC	22/04/1994		22/05/1994		22/06/1994		22/07/1994	Day Admission to Musgrave Ward, RBHSC Mangement of Renal Failure
23/01/1994		23/02/1994		23/03/1994	CAPD Catheter & Peg Gastrostomy Surgeon: Mr Boston Anaesthetist: Dr Crean, Dr Boyd	23/04/1994		23/05/1994		23/06/1994		23/07/1994	
24/01/1994		24/02/1994		24/03/1994		24/04/1994		24/05/1994		24/06/1994		24/07/1994	
25/01/1994		25/02/1994		25/03/1994	Discharged from Musgrave Ward, RBHSC	25/04/1994	Musgrave Ward, RBHSC Mangement of Renal	25/05/1994		25/06/1994		25/07/1994	
26/01/1994		26/02/1994		26/03/1994		26/04/1994		26/05/1994		26/06/1994		26/07/1994	
27/01/1994		27/02/1994		27/03/1994		27/04/1994		27/05/1994		27/06/1994		27/07/1994	
28/01/1994		28/02/1994		28/03/1994	Day Admission to Musgrave Ward, RBHSC Mangement of Renal Failure	28/04/1994		28/05/1994		28/06/1994		28/07/1994	
29/01/1994				29/03/1994		29/04/1994		29/05/1994		29/06/1994		29/07/1994	
30/01/1994		1		30/03/1994		30/04/1994		30/05/1994		30/06/1994		30/07/1994	3
31/01/1994		1		31/03/1994				31/05/1994				31/07/1994	

Aug-1994		Sep-1994		Oct-1994		Nov-1994		Dec-1994	
01/08/1994		01/09/1994		01/10/1994		01/11/1994		01/12/1994	
02/08/1994		02/09/1994	Admitted to wusgrave vvard, RBHSC Management of Renal			02/11/1994		02/12/1994	
03/08/1994		03/09/1994		03/10/1994		03/11/1994		03/12/1994	
04/08/1994		04/09/1994	Discharged from Musgrave Ward, RBHSC	04/10/1994		04/11/1994		04/12/1994	
05/08/1994		05/09/1994		05/10/1994		05/11/1994		05/12/1994	
06/08/1994		06/09/1994		06/10/1994		06/11/1994		06/12/1994	
07/08/1994		07/09/1994		07/10/1994		07/11/1994		07/12/1994	
08/08/1994		08/09/1994	Dialysis Clinic	08/10/1994		08/11/1994		08/12/1994	Dialysis Clinic
09/08/1994		09/09/1994		09/10/1994		09/11/1994		09/12/1994	
10/08/1994	Ward Attender	10/09/1994		10/10/1994		10/11/1994	Dialysis Clinic	10/12/1994	
11/08/1994		11/09/1994		11/10/1994	Dialysis Clinic	11/11/1994		11/12/1994	
12/08/1994		12/09/1994		12/10/1994		12/11/1994		12/12/1994	
13/08/1994		13/09/1994		13/10/1994	Dialysis Clinic	13/11/1994		13/12/1994	
14/08/1994		14/09/1994		14/10/1994		14/11/1994		14/12/1994	
15/08/1994		15/09/1994		15/10/1994	1	15/11/1994		15/12/1994	1
16/08/1994		16/09/1994		16/10/1994		16/11/1994		16/12/1994	
17/08/1994		17/09/1994		17/10/1994		17/11/1994		17/12/1994	
18/08/1994		18/09/1994		18/10/1994		18/11/1994	Day Admission to Musgrave Ward, RBHSC Management of Renal Failure	18/12/1994	
19/08/1994		19/09/1994		19/10/1994		19/11/1994		19/12/1994	
20/08/1994		20/09/1994		20/10/1994		20/11/1994		20/12/1994	
21/08/1994		21/09/1994		21/10/1994		21/11/1994		21/12/1994	
22/08/1994		22/09/1994		22/10/1994		22/11/1994		22/12/1994	
23/08/1994	Admitted to Musgrave Ward, RBHSC	23/09/1994		23/10/1994		23/11/1994		23/12/1994	
24/08/1994	Insertion of Peritoneal dialysis line Surgeons: Mr Boston, Mr Chew Anaesthetist: Dr Kielty, Dr Darling	24/09/1994		24/10/1994		24/11/1994		24/12/1994	
25/08/1994		25/09/1994		25/10/1994		25/11/1994		25/12/1994	
26/08/1994	Discharged from Musgrave Ward, RBHSC	26/09/1994		26/10/1994		26/11/1994		26/12/1994	
27/08/1994		27/09/1994		27/10/1994		27/11/1994		27/12/1994	
28/08/1994		28/09/1994		28/10/1994		28/11/1994		28/12/1994	
29/08/1994		29/09/1994		29/10/1994		29/11/1994		29/12/1994	
30/08/1994		30/09/1994		30/10/1994		30/11/1994		30/12/1994	
31/08/1994				31/10/1994				31/12/1994	

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Jan-1995		Feb-1995		Mar-1995	T	Apr-1995		May-1995	T	Jun-1995	
01/01/1995		01/02/1995		01/03/1995	WANTED THE RESERVE OF THE PARTY	01/04/1995		01/05/1995		01/06/1995	
02/01/1995		02/02/1995	Dialysis Clinic	02/03/1995	Dialysis Clinic			02/05/1995		02/06/1995	
03/01/1995		03/02/1995		03/03/1995		03/04/1995		03/05/1995		03/06/1995	
04/01/1995		04/02/1995		04/03/1995		04/04/1995		04/05/1995		04/06/1995	
05/01/1995		05/02/1995		05/03/1995		05/04/1995		05/05/1995		05/06/1995	
06/01/1995		06/02/1995		06/03/1995		06/04/1995		06/05/1995		06/06/1995	
07/01/1995		07/02/1995		07/03/1995		07/04/1995		07/05/1995		07/06/1995	
08/01/1995		08/02/1995		08/03/1995		08/04/1995		08/05/1995		08/06/1995	Dialysis Clinic
09/01/1995		09/02/1995	Day Admission to Musgrave Ward, RBHSC Removal of Broviac line Surgeon: Mr Saad Anaesthetist: Dr Chisakuta	09/03/1995		09/04/1995		09/05/1995		09/06/1995	
10/01/1995		10/02/1995		10/03/1995		10/04/1995		10/05/1995		10/06/1995	
11/01/1995		11/02/1995		11/03/1995		11/04/1995		11/05/1995	Dialysis Clinic	11/06/1995	
12/01/1995	Dialysis Clinic	12/02/1995		12/03/1995		12/04/1995		12/05/1995		12/06/1995	
13/01/1995		13/02/1995		13/03/1995		13/04/1995	Dialysis Clinic	13/05/1995		13/06/1995	
14/01/1995		14/02/1995		14/03/1995		14/04/1995		14/05/1995		14/06/1995	
15/01/1995		15/02/1995		15/03/1995		15/04/1995		15/05/1995		15/06/1995	
16/01/1995		16/02/1995		16/03/1995		16/04/1995		16/05/1995		16/06/1995	
17/01/1995		17/02/1995		17/03/1995		17/04/1995		17/05/1995		17/06/1995	
18/01/1995	Ward Attender	18/02/1995		18/03/1995		18/04/1995		18/05/1995	Dialysis Clinic	18/06/1995	
19/01/1995		19/02/1995		19/03/1995		19/04/1995		19/05/1995		19/06/1995	
20/01/1995		20/02/1995		20/03/1995		20/04/1995		20/05/1995		20/06/1995	
21/01/1995		21/02/1995		21/03/1995		21/04/1995		21/05/1995		21/06/1995	
22/01/1995		22/02/1995		22/03/1995		22/04/1995		22/05/1995		22/06/1995	Dialysis Clinic
23/01/1995	Day Admission to Musgrave Ward, RBHSC Mangement of Renal Failure	23/02/1995		23/03/1995		23/04/1995		23/05/1995		23/06/1995	
24/01/1995		24/02/1995		24/03/1995		24/04/1995		24/05/1995		24/06/1995	<u> </u>
25/01/1995		25/02/1995		25/03/1995		25/04/1995		25/05/1995		25/06/1995	Day Admission to Musgrave Ward, RBHSC Mangement of Renal Failure
26/01/1995		26/02/1995		26/03/1995		26/04/1995		26/05/1995		26/06/1995	
27/01/1995	Ward Attender	27/02/1995		27/03/1995		27/04/1995		27/05/1995		27/06/1995	
28/01/1995		28/02/1995		28/03/1995		28/04/1995		28/05/1995		28/06/1995	
29/01/1995		and description of the second		29/03/1995		29/04/1995		29/05/1995		29/06/1995	Admitted to Musgrave Ward, RBHSC
30/01/1995	Ward Attender			30/03/1995		30/04/1995		30/05/1995		30/06/1995	
31/01/1995				31/03/1995				31/05/1995			

Jul-1995		Aug-1995		Sep-1995		Oct-1995		Nov-1995	
01/07/1995		01/08/1995		01/09/1995		01/10/1995		01/11/1995	
02/07/1995		02/08/1995		02/09/1995		02/10/1995		02/11/1995	
03/07/1995		03/08/1995		03/09/1995		03/10/1995		03/11/1995	
04/07/1995		04/08/1995		04/09/1995		04/10/1995		04/11/1995	
05/07/1995		05/08/1995		05/09/1995		05/10/1995		05/11/1995	
06/07/1995		06/08/1995		06/09/1995		06/10/1995		06/11/1995	
07/07/1995	CT Scan of brain & abdomen Anaesthetist: indecipherable	07/08/1995		07/09/1995		07/10/1995		07/11/1995	
08/07/1995		08/08/1995		08/09/1995		08/10/1995		08/11/1995	
09/07/1995	Removal of gastrostomy tube & reinsertion of new tube Surgeon: Mr Kealy Anaesthetist: Dr Fenelon	09/08/1995		09/09/1995		09/10/1995		09/11/1995	Dialysis Clinic
10/07/1995		10/08/1995		10/09/1995		10/10/1995		10/11/1995	
11/07/1995	Discharged from Musgrave Ward, RBHSC	11/08/1995		11/09/1995		11/10/1995		11/11/1995	
12/07/1995		12/08/1995		12/09/1995		12/10/1995	Dialysis Clinic	12/11/1995	
13/07/1995		13/08/1995		13/09/1995		13/10/1995		13/11/1995	
14/07/1995	Day Admission to Musgrave Ward, RBHSC Mangement of Renal Failure	14/08/1995		14/09/1995	Dialysis Clinic	14/10/1995		14/11/1995	
15/07/1995		15/08/1995		15/09/1995		15/10/1995		15/11/1995	
16/07/1995		16/08/1995		16/09/1995		16/10/1995		16/11/1995	
17/07/1995		17/08/1995		17/09/1995		17/10/1995		17/11/1995	
18/07/1995		18/08/1995	Dialysis Clinic			18/10/1995	Day Admission to Musgrave Ward, RBHSC Gastrostomy corpak button & left orchidopexy Surgeon: Mr Syrana Anaesthetist: Dr Loan	18/11/1995	
19/07/1995	Ward Attender	19/08/1995		19/09/1995		19/10/1995		19/11/1995	
20/07/1995		20/08/1995		20/09/1995		20/10/1995		20/11/1995	
21/07/1995		21/08/1995		21/09/1995	Day Admission to Musgrave Ward, RBHSC Reinsertion of gastrostomy Surgeon: Dr Acton Anaesthetist: Dr Loan			21/11/1995	
22/07/1995		22/08/1995		22/09/1995		22/10/1995		22/11/1995	
23/07/1995		23/08/1995		23/09/1995		23/10/1995		23/11/1995	
24/07/1995		24/08/1995		24/09/1995		24/10/1995		24/11/1995	
25/07/1995		25/08/1995		25/09/1995		25/10/1995		25/11/1995	
26/07/1995		26/08/1995		26/09/1995		26/10/1995		26/11/1995	Admitted to Musgrave Ward, RBHSC
27/07/1995		27/08/1995		27/09/1995		27/10/1995		27/11/1995	Kidney Transplant Surgeons: Mr P Keane, Mr S Brown Anaesthetist: Dr Taylor, Dr Montague
28/07/1995		28/08/1995		28/09/1995	Ward Attender	28/10/1995		28/11/1995	
29/07/1995		29/08/1995		29/09/1995		29/10/1995		29/11/1995	
30/07/1995		30/08/1995		30/09/1995		30/10/1995		30/11/1995	
31/07/1995		31/08/1995				31/10/1995			

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