CHAPTER 11

PAEDIATRIC

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INCIDENCE OF END STAGE RENAL DISEASE BY MODE OF TREATMENT (1995-2001)

On behalf of the Australia and New Zealand Paediatric Nephrology Association (ANZPNA)

Figure 11.1 shows the number of children and adolescents (up to 20 years of age) who have commenced treatment for ESRD from 1995 to 2001 (incident cases).

Overall the numbers of children treated for ESRD were very similar across the 0-4, 5-9 and 10-14 age groups, with double the number in the adolescent and young adult age group (15-19 years).

As expected, excluding transplantation (which is dependent upon donor availability), there was a linear trend in the mode of ESRD treatment with the age of the child so that younger children were primarily treated with peritoneal dialysis and older children and, in particular adolescents and young adults, were treated with haemodialysis.

Figure 11.1

Age of Patients at First Treatment By Treatment on That Day First Treatment 1995 to 2001

Country	Treatment	Age Groups				
		00-<05	05-<10	10-<15	15-<20	Total
Australia	Haemodialysis	4	10	22	86	**122**
	Peritoneal Dialysis	46	34	28	27	**135**
	Transplant	12	8	20	15	**55**
	Total	**62**	**52**	**70**	**128**	**312**
New Zealand	Haemodialysis	1	0	1	18	**20**
	Peritoneal Dialysis	12	11	10	17	**50**
	Transplant	0	4	5	2	**11**
	Total	**13**	**15**	**16**	**37**	**81**

MODE OF TREATMENT

Figure 11.2 shows the proportion of time spent by children with ESRD being treated by haemodialysis, peritoneal dialysis and with a functioning renal graft since the inception of ANZDATA, in decade quartiles. There is no trend towards an increase in time spent with a functional renal transplant over the past 40 years.

Figure 11.2 Proportion of RRT treatment (as % of person-time) by RRT modality by decade of RRT start. Tx-transplantation, PD=peritoneal dialysis, HD=haemodialysis.

	1963-72			*1973-82*			*1983-92*			*1993-2002*			*Total*		
Age	*HD*	*PD*	*Graft*	*HD*	*PD*	*Graft*	*HD*	*PD*	*Graft*	*HD*	*PD*	*Graft*	*HD*	*PD*	*Graft*
0-1							6	14	80	5	50	45	5	33	61
1-4	38	7	55	19	17	64	8	17	75	6	22	72	10	18	72
5-9	10	5	84	15	8	76	11	14	75	7	23	70	12	13	75
10-14	22	1	77	22	7	71	16	13	71	15	21	65	19	10	71
15-19	23	2	75	30	3	66	23	8	69	32	21	47	27	6	67
Total	23	2	75	26	5	69	18	11	71	19	22	58	22	9	69

Figure 11.3

Age of Patients on 31 December 2001 By Treatment on That Day

Country	Treatment	Age Groups				
		00-<05	05-<10	10-<15	15-<20	Total
Australia	Haemodialysis	2	1	10	28	**41**
	Peritoneal Dialysis	7	8	7	17	**39**
	Transplant	11	39	58	87	**195**
	Total	**20**	**48**	**75**	**132**	**275**
New Zealand	Haemodialysis	1	0	2	12	**15**
	Peritoneal Dialysis	4	2	4	9	**19**
	Transplant	3	5	12	13	**33**
	Total	**8**	**7**	**18**	**34**	**67**

Prevalent end stage renal disease at the end of 2001

Figure 11.3 shows the number of children and adolescents who received treatment for ESRD at the end of 2001 (prevalent cases).

Overall, in Australia there were 80 children and adolescents receiving dialysis and 195 who had received a renal transplant. In New Zealand there were 34 children and adolescents receiving dialysis and 33 who had received a renal transplant.

Figure 11.4

Primary Renal Disease and Age of Patients At First Treatment, By Treatment on That Day First Treatment 1995 to 2001

Country	Primary Renal Disease	Age Groups				
		00-<05	05-<10	10-<15	15-<20	Total
Australia	Glomerulonephritis	5	13	16	68	**102**
	Reflux	4	7	12	28	**51**
	Hypoplasia and Dysplasia	17	6	9	3	**35**
	Medullary Cystic	1	4	10	3	**18**
	Haemolytic Uraemic	9	2	1	3	**15**
	Posterior Urethral Valves	8	2	7	0	**17**
	Other	17	17	15	21	**70**
	Unknown	1	1	0	2	**4**
	Total	**62**	**52**	**70**	**128**	**312**
New Zealand	Glomerulonephritis	1	2	7	23	**33**
	Reflux	0	3	2	4	**9**
	Hypoplasia and Dysplasia	0	0	0	1	**1**
	Medullary Cystic	0	1	1	0	**2**
	Haemolytic Uraemic	0	0	1	0	**1**
	Posterior Urethral Valves	4	1	1	0	**6**
	Other	8	7	4	6	**25**
	Unknown	0	1	0	3	**4**
	Total	**13**	**15**	**16**	**37**	**81**

Cause of end stage renal disease (1995-2001)

Table 11.4 shows the causes of primary renal disease causing ESRD amongst Australian and New Zealand children by age group for 1995-2001.

Glomerulonephritis remains the leading cause of end-stage renal failure overall amongst children and adolescents as a whole, but the congenital renal diseases are the major causes amongst young children.