

# **RENAL TRANSPLANTATION**

Stock and Flow

Place and Type of Transplant

Death after Transplantation and Graft Failure

Centres of Follow-up

Characteristics of Transplant Patients

Survival Analysis

Work related Rehabilitation and Quality of Life

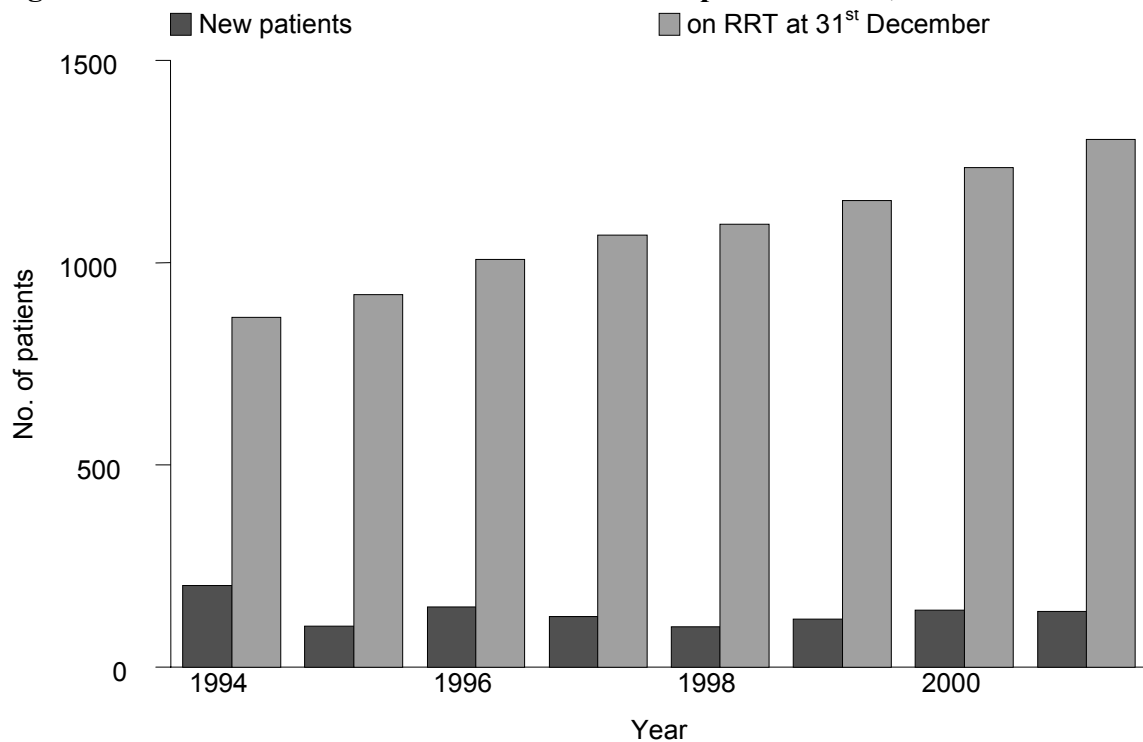
## 5. RENAL TRANSPLANTATION

### 5.1. STOCK AND FLOW

**Table 5.01** Stock and Flow of Renal Transplant Patients 1994 – 2001

Year	1994	1995	1996	1997	1998	1999	2000	2001
New transplant patients	202	101	148	124	99	119	141	138
Died	28	16	31	28	23	25	26	28
Returned to dialysis	21	28	28	37	47	34	31	37
Lost to Follow Up	3	1	1	0	2	1	2	4
Functioning graft at 31 <sup>st</sup> December	864	920	1008	1067	1094	1153	1235	1303

**Figure 5.01:** Stock and Flow Renal Transplant Patients, 1994 – 2001



## 5.2. PLACE AND TYPE OF RENAL TRANSPLANT

**Table 5.02: Place of Renal Transplantation 1994 – 2001**

Year	1994		1995		1996		1997	
	No.	%	No.	%	No.	%	No.	%
HKL	33	16	36	36	33	22	29	23
UMMC	5	2	9	9	6	4	6	5
Other local	0	0	0	0	0	0	0	0
India	142	70	22	22	5	3	7	6
China	21	10	33	33	103	70	80	65
Other overseas	1	0	1	1	1	1	2	2
<b>Total</b>	<b>137</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>101</b>	<b>100</b>	<b>146</b>	<b>100</b>
Year	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
HKL	33	33	35	29	28	20	31	22
UMMC	7	7	16	13	17	12	22	16
Other local	0	0	1	1	1	1	2	1
India	6	6	5	4	9	6	7	5
China	51	52	60	50	80	57	64	46
Other overseas	2	2	2	2	0	0	9	7
<b>Total</b>	<b>99</b>	<b>100</b>	<b>119</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>138</b>	<b>100</b>

**Table 5.03: Type of Renal Transplantation 1994 – 2001**

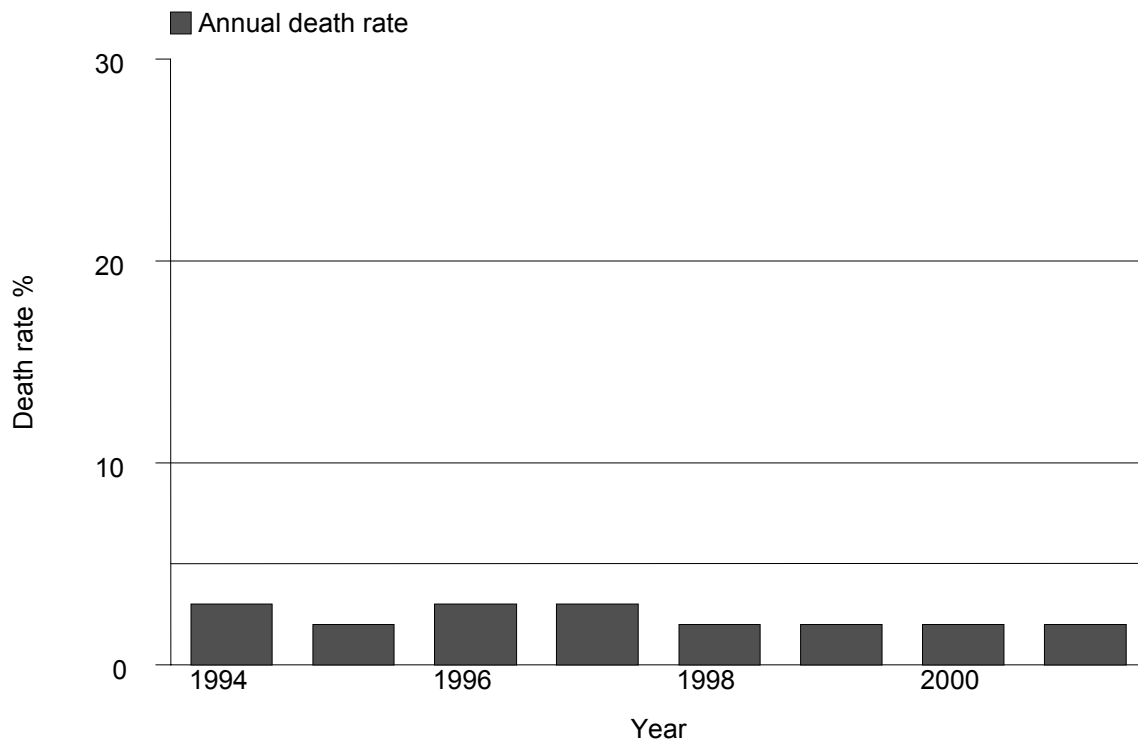
Year	1994		1995		1996		1997	
	No.	%	No.	%	No.	%	No.	%
Commercial Cadaver	21	10	33	33	103	70	80	65
Commercial Live donor	141	70	19	19	4	3	7	6
Live donor Cadaver	38	19	44	44	39	26	29	23
	2	1	5	5	2	1	8	6
Total	202	100	101	100	148	100	124	100
Year	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Commercial Cadaver	51	52	55	46	76	54	63	46
Commercial Live donor	4	4	4	3	10	7	5	4
Live donor Cadaver	27	27	40	34	18	13	30	22
	15	15	14	12	30	21	38	28
Total	99	100	119	100	141	100	138	100

### 5.3. DEATH AFTER TRANSPLANTATION AND GRAFT FAILURE

**Table 5.04: Transplant Patients Death Rate and Graft Loss 1994 – 2001**

Year	1994	1995	1996	1997	1998	1999	2000	2001
No. at risk	864	892	964	1038	1081	1124	1194	1269
Transplant death	28	16	31	28	23	25	26	28
Transplant death rate %	3	2	3	3	2	2	2	2
Graft loss	21	28	28	37	47	34	31	37
Graft loss %	2	3	3	4	4	3	3	3
All losses	49	44	59	65	70	59	57	65
All losses rate %	6	5	6	6	6	5	5	5

**Figure 5.04: Transplant Recipient Death Rate 1994– 2001**



**Table 5.05: Causes of Death in Transplant Recipients 1998 – 2001**

Year	1998		1999		2000		2001	
	No	%	No	%	No	%	No	%
Cardiovascular	3	13	3	12	10	38	6	21
Died at home	4	17	4	16	0	0	3	11
Sepsis	9	39	7	28	9	35	16	57
GIT bleeding	1	4	1	4	1	4	0	0
Cancer	3	13	3	12	2	8	2	7
Liver disease	1	4	1	4	1	4	0	0
Others	0	0	3	12	3	12	1	4
Unknown	2	9	3	12	0	0	0	0
<b>Total</b>	<b>23</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>26</b>	<b>100</b>	<b>28</b>	<b>100</b>

**Table 5.06: Causes of Graft Failure 1998 – 2001**

Year	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Rejection	24	51	21	62	19	61	14	38
Cyclosporine/ drug toxicity	0	0	0	0	0	0	0	0
Ureteric obstruction	0	0	0	0	0	0	0	0
Vascular causes(stenosis / thrombosis)	1	2	1	3	3	10	1	3
Renal disease, recurrent/de novo	1	2	0	0	0	0	2	5
Technical complication	0	0	0	0	2	6	1	3
Others	4	9	0	0	2	6	0	0
Unknown	17	36	12	35	5	16	19	51
<b>Total</b>	<b>47</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>37</b>	<b>100</b>

#### 5.4 CENTRES OF FOLLOW-UP

**Table 5.07: Distribution of Centres of Follow-up of Transplant Recipients, 20001**

	Centre	No	Percent
	Number with function graft at 31 <sup>st</sup> December	1303	100
1	Alor Setar Hospital	5	0
2	Ampang Puteri Specialist Hospital	5	0
3	Batu Pahat Hospital	11	1
4	Bintulu Hospital	4	0
5	C.S. Loo Kidney & Medical Specialist Centre	2	0
6	Duchess of Kent Hospital	4	0
7	Healthcare Dialysis Centre, Petaling Jaya	17	1
8	Ipoh Hospital	49	4
9	Kluang Hospital	11	1
10	Kota Bharu Hospital	4	0
11	Kuala Lumpur Hospital	348	27
12	Kuala Lumpur Hospital (Paed.)	1	0
13	Kuala Terengganu Hospital	6	0
14	Kuching Hospital	50	4
15	Labuan Hospital	1	0
16	Mahkota Medical Centre	11	1
17	Melaka Hospital	40	3
18	Mentakab Hospital	1	0
19	Miri Hospital	15	1
20	Muar Hospital	16	1
21	Pantai Mutiara Hospital, Penang	1	0
22	Pulau Pinang Hospital	164	13
23	Pusat Pakar Tawakal	8	1
24	Queen Elizabeth Hospital	42	3
25	Renal Dialysis Centre, Gleneagles Intan Medical Centre	3	0
26	Renal Healthcare, Kuala Lumpur	2	0
27	Segamat Hospital	7	1
28	Selangor Medical Centre	2	0
29	Selayang Hospital	31	2
30	Seremban Hospital	32	2
31	Sibu Hospital	24	2
32	Subang Jaya Medical Centre	15	1
33	Sultanah Aminah Hospital	142	11
34	Taiping Hospital	2	0
35	Tawau Hospital	5	0
36	Teluk Intan Hospital	1	0
37	Tengku Ampuan Afzan Hospital, Kuantan	24	2
38	Tengku Ampuan Rahimah Hospital, Klang	47	4
39	Timberland Medical Centre	20	2
40	Universiti Kebangsaan Malaysia Hospital	2	0
41	Universiti Sains Malaysia Hospital	3	0
42	University Malaya Medical Centre	125	10

## 5.5 TRANSPLANT RECIPIENTS' CHARACTERISTICS

**Table 5.08: Percentage age distribution of transplant recipients 1998 – 2001**

Year	1998	1999	2000	2001
New transplant patients	99	119	141	138
1-14 years	4	5	6	3
15-24 years	6	12	7	11
25-34 years	29	25	21	18
35-44 years	29	29	26	27
45-54 years	25	23	30	28
55-64 years	6	7	9	11
≥65 years	0	0	3	2
Functioning graft at 31st December	1094	1153	1235	1303
1-14 years	3	3	3	3
15-24 years	14	14	13	13
25-34 years	32	31	31	29
35-44 years	30	30	30	30
45-54 years	16	17	17	18
55-64 years	5	5	5	6
≥65 years	0	0	1	1

**Table 5.09: Renal Transplant Recipients' Characteristics 1998 – 2001**

Year	1998	1999	2000	2001
New transplant patients	99	119	141	138
Mean age± sd	37± 12	36± 13	39± 14	40± 14
% male	61	62	64	59
% Diabetic	10	10	13	12
% HBsAg+	6	3	4	3
% Anti-HCV+	15	8	6	12



## 5.6 SURVIVAL ANALYSIS

**Table 5.10: Transplant Patient Survival related to Year of Transplant 1996 – 2001**

Year	1996			1997			1998		
Interval (months)	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	94	2	138	98	1	117	95	2	
12	92	2	135	96	2	114	95	2	
24	91	2	132	95	2	111	95	2	
36	89	3	127	91	3	102	95	2	
48	87	3	124	89	3				
60	85	3							

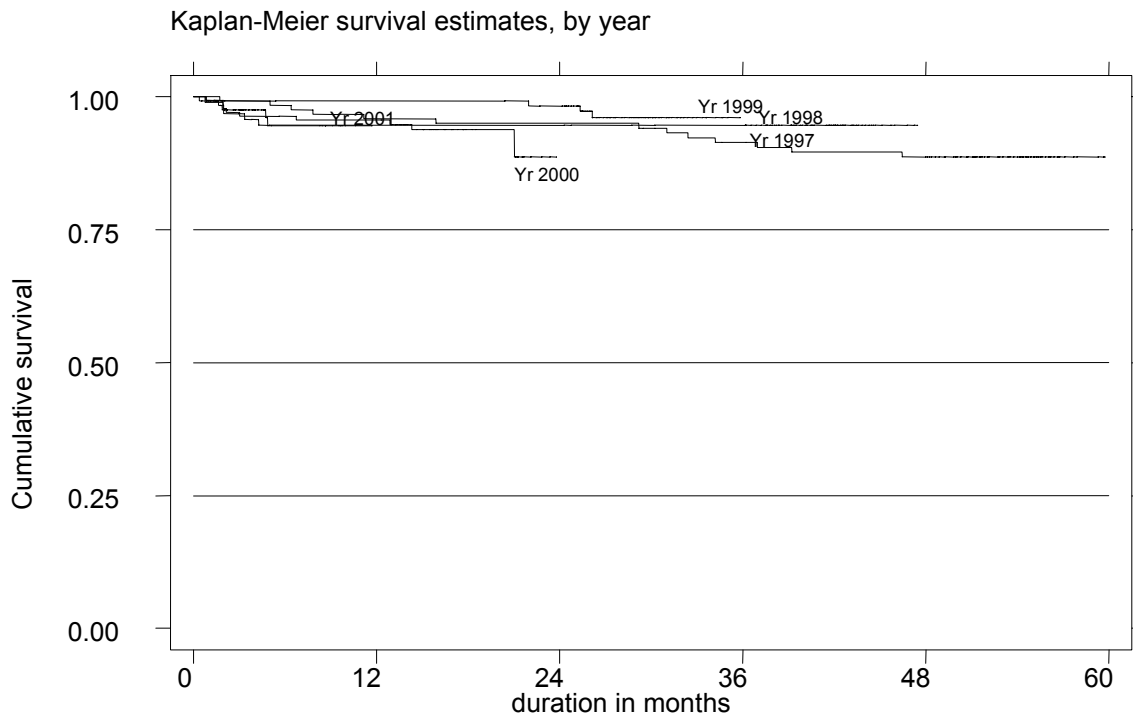
  

Year	1999			2000			2001		
Interval (months)	% survival	SE	No	% survival	SE	No	% survival	SE	No
6	99	1	117	96	2	130	95	2	
12	99	1	116	96	2	119			
24	98	1	104						

No. = number at risk

SE = standard error

**Figure 5.10: Transplant Patient Survival by Year of Transplant 1997 – 2001**





**5.7 WORK RELATED REHABILITATION AND QUALITY OF LIFE IN TRANSPLANT RECIPIENTS**

**Table 5.12: Work Related Rehabilitation in Transplant Recipients 1998 – 2001**

REHABILITATION STATUS	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
Full time work for pay	420	68	543	62	548	66	610	63
Part time work for pay	36	6	62	7	60	7	65	7
Able to work but unable to get a job	20	3	8	1	10	1	15	2
Able to work but not yet due to dialysis schedule	0	0	0	0	1	0	1	0
Able but disinclined to work	10	2	6	1	7	1	11	1
Home maker	94	15	174	20	138	17	163	17
Full time student	14	2	32	4	30	4	46	5
Age<15 years	3	0	3	0	3	0	5	1
Retired	10	2	32	4	31	4	25	3
Age>65 years	6	1	7	1	5	1	17	2
Unable to work due to poor health	9	1	11	1	2	0	12	1
<b>Total</b>	<b>622</b>	<b>100</b>	<b>878</b>	<b>100</b>	<b>835</b>	<b>100</b>	<b>970</b>	<b>100</b>

**Table 5.13: Quality of Life, Transplant recipients 1998 – 2001**

QOL Index Summated Score	1998		1999		2000		2001	
	No.	%	No.	%	No.	%	No.	%
0 (Worst QOL)	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	4	0
4	1	0	0	0	2	0	0	0
5	0	0	1	0	0	0	4	0
6	5	1	4	0	2	0	4	0
7	9	2	8	1	1	0	5	1
8	11	2	5	1	12	1	15	2
9	31	5	9	1	23	3	19	2
10 (Best QOL)	532	90	852	97	780	95	913	95
Total	589	100	879	100	820	100	964	100