

f

# Transplantation: outcomes





For survival probabilities, first transplant, see Section I: Patient Survival

Tables F.1–24: by age, gender, race/ethnicity, primary diagnosis, & transplant number

**Table F.1 . 149**  
90-day graft survival probabilities: all deceased donor transplants

**Table F.2 . 150**  
One-year graft survival probabilities: all deceased donor transplants

**Table F.3 . 151**  
Two-year graft survival probabilities: all deceased donor transplants

**Table F.4 . 152**  
Three-year graft survival probabilities: all deceased donor transplants

**Table F.5 . 153**  
Five-year graft survival probabilities: all deceased donor transplants

**Table F.6 . 154**  
Ten-year graft survival probabilities: all deceased donor transplants

**Table F.7 . 155**  
90-day graft survival probabilities: all living donor transplants

**Table F.8 . 156**  
One-year graft survival probabilities: all living donor transplants

**Table F.9 . 157**  
Two-year graft survival probabilities: all living donor transplants

**Table F.10 . 158**  
Three-year graft survival probabilities: all living donor transplants

**Table F.11 . 159**  
Five-year graft survival probabilities: all living donor transplants

**Table F.12 . 160**  
Ten-year graft survival probabilities: all living donor transplants

**Table F.13 . 161**  
90-day probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.14 . 162**  
One-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.15 . 163**  
Two-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.16 . 164**  
Three-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.17 . 165**  
Five-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.18 . 166**  
Ten-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

**Table F.19 . 167**  
90-day probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.20 . 168**  
One-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.21 . 169**  
Two-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.22 . 170**  
Three-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.23 . 171**  
Five-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.24 . 172**  
Ten-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

**Table F.25 . 173**  
Risk factors for graft failure: deceased donor transplants, 2000–2005

**Table F.26 . 177**  
Risk factors for graft failure: living donor transplants, 2000–2005

### For probability tables

Overall probabilities are adjusted for age, gender, race, primary diagnosis, & first vs. subsequent transplant, & standardized to 1996 patient characteristics. Adjusted probabilities for one of the five variables are adjusted for the remaining four. Patients of unknown age or gender are excluded. Age calculated as of the day of transplant.

Ninety-day, one-year, two-year, three-year, & five-year probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

### The following symbols are used throughout this reference section

† CMS began collecting Hispanic ethnicity data in April 1995; cells for years prior to 1996 have therefore been left blank.

\* Values for cells with ten or fewer patients are suppressed. " ." Zero values in this cell.

Table F.1

**90-day graft survival probabilities: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	75.0	53.3	66.7	62.5	77.8	69.2	62.5	91.7	100.0	75.0	87.5	100.0	90.0	66.7	100.0	100.0	100.0	90.9
1-4	83.3	73.7	80.0	69.8	78.6	90.6	89.7	100.0	83.3	83.8	75.0	95.8	87.5	88.0	95.8	83.3	96.6	96.8
5-9	80.6	79.1	82.9	69.4	82.8	88.6	80.6	89.8	89.5	91.2	96.8	90.9	84.2	93.2	98.2	94.0	97.0	92.9
10-14	85.9	78.3	82.6	81.6	89.7	87.7	93.8	87.5	88.0	93.9	95.2	93.1	93.2	97.8	93.3	96.9	96.5	97.6
15-19	85.7	79.7	85.8	85.0	84.4	85.8	86.2	88.9	90.8	90.5	94.4	88.8	93.0	92.2	94.0	94.3	95.7	97.3
20-29	87.1	82.8	85.9	87.0	88.7	88.7	88.0	90.7	92.4	91.3	95.0	93.6	94.1	93.8	93.7	95.3	94.4	95.9
30-39	84.9	85.1	84.8	86.2	89.7	90.0	88.7	90.0	92.1	92.7	93.1	94.2	93.2	94.1	94.7	94.4	94.3	95.0
40-49	83.0	83.2	86.4	86.2	87.8	88.8	89.0	90.6	91.0	92.7	93.6	94.1	94.9	93.9	94.7	94.2	95.3	94.8
50-59	84.6	84.4	84.8	87.4	87.7	88.2	88.1	89.3	90.6	91.5	92.0	92.2	92.3	93.1	93.5	92.8	94.0	93.9
60-64	86.3	82.0	85.8	86.4	88.3	89.2	89.1	89.9	91.1	91.6	93.4	92.6	90.2	91.8	92.8	92.4	91.2	93.5
65-69	79.4	81.0	86.1	86.7	86.5	88.0	90.7	88.7	87.4	88.7	89.4	92.2	90.8	89.8	89.5	92.8	92.7	92.0
70-79	82.4	75.6	76.5	84.6	88.9	84.4	81.9	90.5	89.9	89.8	90.4	89.2	87.4	91.6	90.5	90.8	92.5	93.6
80+	.	.	.	.	.	.	.	.	*	.	.	87.5	.	85.7	.	.	.	94.7
Male	84.7	83.1	85.1	86.4	88.3	88.9	88.8	90.4	91.0	91.6	93.8	93.2	93.4	93.6	93.5	93.6	93.9	94.4
Female	84.6	83.7	85.7	85.9	88.1	88.6	88.0	89.3	91.1	92.3	91.7	93.1	92.1	92.6	94.0	93.5	94.2	94.2
White	84.5	83.4	85.6	86.2	88.4	89.0	88.5	89.7	90.7	92.2	92.9	93.0	93.1	93.5	93.8	94.0	94.6	94.4
African American	84.9	81.8	83.7	85.8	87.2	87.6	87.7	90.6	91.6	90.6	92.6	93.0	92.2	92.0	93.2	92.5	92.4	93.4
Other race	87.5	88.7	90.5	88.5	90.5	90.5	92.8	90.9	93.3	94.2	96.0	95.7	92.8	95.1	94.8	94.0	95.1	96.1
†Hispanic										93.7	93.9	94.4	93.9	94.8	94.7	95.0	95.3	94.9
†Non-Hispanic										91.7	92.9	93.0	92.7	92.9	93.5	93.3	93.8	94.2
Diabetes	85.0	83.3	87.0	86.0	88.7	88.2	90.2	90.6	91.6	92.8	92.8	93.4	92.8	93.7	94.0	93.5	93.9	93.9
Hypertension	85.0	84.4	85.0	87.8	89.1	88.6	88.5	90.7	91.1	92.5	92.7	94.1	93.1	91.8	93.4	92.5	93.5	94.7
Glomerulonephritis	84.6	82.5	84.3	85.8	88.7	89.7	87.8	89.6	91.1	91.8	93.6	92.9	93.4	93.8	93.8	94.0	94.2	94.1
Other cause	84.3	83.5	85.4	85.7	86.9	88.5	87.5	89.2	90.4	90.4	92.8	92.5	92.3	92.9	93.4	94.0	94.3	94.6
First transplant	85.7	84.7	86.3	86.9	89.0	89.4	89.2	90.6	91.6	92.2	93.3	93.5	93.1	93.6	94.0	93.6	94.3	94.8
Subsequent transplants	78.1	74.8	79.6	82.3	83.5	84.7	82.9	85.8	87.2	89.5	90.6	90.9	91.2	90.5	91.4	93.0	92.2	91.2
All	84.7	83.3	85.4	86.2	88.2	88.8	88.5	90.0	91.1	91.9	93.0	93.2	92.9	93.2	93.7	93.5	94.0	94.3
<b>ADJUSTED</b>																		
0-19	84.0	77.7	84.0	80.0	84.9	86.2	86.3	89.6	89.6	90.4	93.1	91.5	91.5	93.0	94.7	94.1	96.1	96.4
20-44	84.9	83.8	85.6	86.3	89.2	89.5	88.8	90.7	92.1	92.8	93.9	94.5	94.0	94.1	94.7	95.0	94.9	95.3
45-64	84.4	83.2	84.7	86.9	87.3	88.1	88.2	89.8	91.0	91.7	92.8	92.7	92.7	93.2	93.9	93.1	93.9	94.2
65-74	78.4	79.0	83.4	85.2	86.0	86.9	88.6	88.9	87.9	89.0	89.6	91.8	90.0	90.5	90.1	92.3	92.8	93.1
75+	100.0	73.0	84.4	89.0	100.0	85.4	75.1	87.2	89.2	94.5	87.1	84.2	86.2	89.6	87.1	90.9	93.2	88.8
Male	84.0	82.4	84.3	85.9	88.0	88.7	88.6	90.5	91.2	91.7	94.0	93.5	93.6	93.9	93.9	94.1	94.4	94.9
Female	83.5	82.5	84.8	85.0	87.4	88.0	87.5	89.1	91.0	92.2	91.6	93.1	92.1	92.7	94.2	93.7	94.5	94.4
White	83.4	82.5	84.7	85.6	88.1	88.8	88.3	89.7	90.8	92.3	93.1	93.3	93.3	93.8	94.1	94.4	95.1	95.0
African American	85.1	81.7	83.5	85.7	87.2	87.5	87.7	90.6	91.7	90.6	92.7	93.2	92.3	92.1	93.4	92.7	92.6	93.6
Other race	84.9	86.6	89.4	87.1	89.4	89.6	92.1	90.6	92.7	94.5	95.8	95.5	92.9	95.1	94.8	94.0	95.3	96.1
Diabetes	83.4	81.6	85.3	84.6	87.6	87.1	89.5	90.2	91.3	92.6	92.7	93.5	92.8	93.9	94.2	93.9	94.4	94.5
Hypertension	86.5	85.9	86.3	89.0	90.2	89.7	89.6	91.7	92.2	93.4	93.7	94.9	94.0	93.0	94.4	93.7	94.6	95.5
Glomerulonephritis	83.9	81.7	83.5	85.4	88.4	89.4	87.3	89.6	91.1	91.8	93.6	92.9	93.5	93.9	94.0	94.1	94.5	94.3
Other cause	83.5	82.4	84.6	84.9	86.1	87.9	86.8	88.9	90.2	90.2	92.6	92.4	92.1	92.9	93.4	94.0	94.4	94.7
First transplant	84.9	83.9	85.5	86.3	88.6	89.1	89.1	90.7	91.8	92.4	93.5	93.8	93.3	93.9	94.4	94.1	94.8	95.2
Subsequent transplants	77.0	73.2	78.0	80.9	82.2	83.5	81.7	84.9	86.3	88.7	90.0	90.4	90.6	90.1	91.0	92.7	92.0	90.9
All	83.8	82.4	84.5	85.6	87.8	88.4	88.2	89.9	91.1	91.9	93.1	93.3	93.0	93.4	94.0	93.9	94.5	94.7

on our website &amp; CD

90-day probability of death with functioning graft: all deceased donor transplants (F.1.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

149

Table F.2

## One-year graft survival probabilities: all deceased donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	70.0	33.3	66.7	50.0	66.7	69.2	62.5	83.3	75.0	75.0	87.5	100.0	80.0	66.7	80.0	100.0	100.0	63.6
1-4	72.2	57.9	73.3	60.5	67.9	81.3	79.3	96.0	79.2	81.1	75.0	95.8	84.4	80.0	95.8	76.7	93.1	96.8
5-9	65.3	73.1	79.0	63.9	79.7	88.6	76.1	84.8	87.7	85.3	95.2	89.4	79.0	90.9	96.4	91.0	91.0	91.1
10-14	78.1	70.0	71.6	73.8	81.4	84.0	90.1	85.8	84.6	91.8	92.2	90.1	90.7	94.4	88.8	93.9	91.5	94.5
15-19	74.9	70.8	74.7	77.9	78.0	80.0	79.9	80.7	82.4	85.4	90.1	81.4	87.2	87.4	90.2	92.0	90.0	92.7
20-29	77.5	75.2	80.6	80.7	83.7	82.4	83.0	85.4	87.9	87.5	90.0	90.7	90.0	89.7	90.3	90.0	90.4	92.7
30-39	75.3	77.2	78.7	80.5	84.8	83.8	83.0	84.3	87.5	88.9	89.9	90.7	88.9	90.8	91.2	90.5	90.0	90.9
40-49	71.7	75.3	78.6	79.0	82.2	84.2	83.7	84.8	85.8	87.4	89.1	90.7	90.5	89.3	90.3	90.1	91.5	91.7
50-59	74.0	75.9	78.0	79.3	81.8	81.0	81.7	83.0	85.1	86.2	86.7	87.2	86.5	86.7	88.3	88.3	88.9	88.6
60-64	72.1	75.7	77.3	78.5	82.5	81.6	81.6	83.8	83.2	84.7	87.2	84.4	84.0	83.7	85.9	86.8	84.9	87.5
65-69	61.7	68.5	75.2	76.4	79.3	82.9	79.0	79.8	79.8	81.8	82.2	84.0	83.3	82.5	82.8	85.1	87.1	84.4
70-79	82.4	65.9	73.5	73.9	79.4	83.3	68.6	78.6	80.6	83.7	80.1	78.5	79.4	83.2	80.6	81.9	83.7	86.0
80+	.	.	.	.	.	*	.	*	*	.	.	87.5	*	*	.	.	.	94.7
Male	73.8	74.7	78.3	79.0	82.7	82.9	82.9	84.1	85.1	86.7	88.8	88.2	87.9	87.8	88.5	88.3	88.6	89.2
Female	74.5	76.2	78.5	79.4	82.6	82.8	81.7	83.7	86.5	87.2	87.2	89.0	87.4	87.8	89.1	89.4	89.9	90.1
White	74.3	76.1	79.2	79.5	83.1	83.3	82.7	83.9	85.4	87.4	88.6	88.8	88.5	88.8	89.5	89.6	90.2	89.7
African American	72.8	71.4	74.1	77.3	80.2	80.4	80.8	83.3	85.4	85.2	86.1	86.8	85.1	84.6	86.7	86.5	86.4	88.0
Other race	78.1	81.2	86.0	82.4	87.6	87.4	86.6	87.1	89.8	87.6	93.2	92.6	89.4	89.9	89.7	90.2	90.4	93.3
†Hispanic										89.0	90.2	91.6	89.7	90.1	91.7	92.0	91.3	91.5
†Non-Hispanic										86.7	88.0	88.1	87.4	87.5	88.3	88.2	88.7	89.3
Diabetes	74.1	74.9	80.8	78.1	82.4	82.2	83.3	84.2	86.6	87.4	87.7	88.5	88.0	87.5	89.2	87.9	88.6	88.2
Hypertension	72.4	75.8	77.5	79.4	83.3	82.0	82.8	84.4	85.6	87.2	86.2	87.8	86.8	84.7	86.9	87.1	87.8	89.6
Glomerulonephritis	74.8	75.4	78.0	79.9	83.2	83.9	82.5	83.8	85.8	86.9	89.6	89.1	87.9	89.3	89.9	89.9	89.7	90.3
Other cause	74.2	75.2	77.4	79.0	82.0	83.0	81.2	83.4	84.6	86.0	88.8	88.6	87.8	88.7	88.6	89.7	90.0	90.6
First transplant	75.0	76.7	79.5	79.9	83.5	83.5	82.9	84.4	86.3	87.2	88.5	88.9	88.1	88.2	89.2	88.8	89.5	90.1
Subsequent transplants	68.1	66.3	71.2	74.6	77.8	79.1	78.5	80.2	81.1	84.5	86.0	85.7	84.7	84.9	85.1	88.1	85.7	85.8
All	74.1	75.3	78.4	79.1	82.7	82.9	82.4	83.9	85.6	86.9	88.2	88.5	87.7	87.8	88.7	88.7	89.1	89.6
<b>ADJUSTED</b>																		
0-19	73.4	68.5	74.6	72.8	78.2	81.4	80.6	83.8	83.6	86.3	89.8	86.8	86.7	88.8	90.7	91.1	90.7	92.2
20-44	74.9	75.9	79.2	79.9	83.8	83.6	83.4	85.3	87.5	88.5	89.9	91.3	89.8	90.4	91.0	91.1	91.1	91.8
45-64	72.4	75.0	77.0	79.0	81.7	81.7	82.0	83.5	85.1	86.3	87.7	87.5	87.2	87.0	88.7	88.4	88.9	89.4
65-74	62.2	66.2	73.0	74.3	77.9	82.5	76.8	79.1	80.0	82.1	81.6	82.8	82.5	82.9	82.6	84.4	86.4	85.7
75+	100.0	73.0	84.4	56.3	100.0	75.6	50.9	68.2	67.9	78.2	77.5	75.3	74.6	77.2	76.7	79.9	83.8	81.2
Male	72.5	73.5	77.1	78.3	82.1	82.5	82.6	84.1	85.2	86.8	89.1	88.6	88.3	88.3	89.2	89.1	89.5	90.1
Female	72.7	74.6	77.3	78.1	81.7	82.0	81.1	83.4	86.2	87.1	87.1	89.0	87.4	88.0	89.3	89.7	90.3	90.5
White	72.5	74.7	78.0	78.7	82.6	83.0	82.4	83.8	85.5	87.6	88.8	89.2	88.8	89.4	90.1	90.3	91.0	90.7
African American	72.5	71.3	73.8	77.1	80.1	80.3	80.8	83.3	85.4	85.3	86.3	86.9	85.3	84.8	87.0	86.7	86.8	88.4
Other race	73.9	78.0	84.5	80.3	86.2	86.3	85.4	86.4	88.9	87.2	92.9	92.3	89.4	89.8	89.6	90.2	90.7	93.3
Diabetes	71.3	72.4	78.6	76.0	80.8	80.7	82.2	83.4	86.0	87.0	87.5	88.4	88.1	87.9	89.6	88.6	89.5	89.2
Hypertension	74.6	78.0	79.5	81.2	84.7	83.7	84.4	85.9	87.0	88.6	87.9	89.3	88.4	86.8	88.8	89.0	89.6	91.1
Glomerulonephritis	73.4	74.2	77.0	79.3	82.6	83.5	81.8	83.7	85.7	86.9	89.5	89.0	88.0	89.5	90.1	90.2	90.1	90.6
Other cause	72.9	73.6	76.1	77.9	81.0	82.0	80.2	82.9	84.2	85.6	88.5	88.4	87.5	88.7	88.5	89.7	90.2	90.5
First transplant	73.5	75.4	78.4	79.1	82.8	83.0	82.7	84.6	86.5	87.4	88.8	89.3	88.5	88.8	89.9	89.6	90.4	91.0
Subsequent transplants	66.3	64.2	69.1	72.7	76.1	77.5	77.0	78.9	79.7	83.4	85.1	84.8	83.8	84.0	84.4	87.6	85.1	85.2
All	72.5	73.9	77.1	78.2	81.9	82.3	82.0	83.8	85.6	86.9	88.3	88.7	87.9	88.2	89.3	89.3	89.8	90.3

on our website & CD

One-year probability of death with functioning graft: all deceased donor transplants (F.2.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).



150

Table F.3

**Two-year graft survival probabilities: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<1	70.0	33.3	66.7	50.0	66.7	61.5	50.0	83.3	75.0	62.5	62.5	.	80.0	66.7	80.0	.	87.5
1-4	66.7	57.9	73.3	58.1	64.3	81.3	75.9	92.0	70.8	75.7	71.9	91.7	84.4	76.0	95.8	76.7	93.1
5-9	59.7	67.2	75.0	61.1	73.4	86.4	73.1	84.8	82.5	82.4	93.6	87.9	77.2	88.6	91.1	83.6	88.1
10-14	66.4	60.0	66.1	67.0	75.3	72.8	82.7	80.0	78.6	85.7	87.4	85.2	84.8	92.2	83.2	89.8	85.8
15-19	66.8	63.1	65.7	71.7	69.9	72.6	72.5	70.4	74.0	74.2	83.1	75.8	81.5	74.9	82.6	80.5	79.9
20-29	69.0	66.8	74.6	73.3	78.2	76.2	77.5	80.1	81.8	81.1	84.9	85.0	83.1	82.5	86.1	84.7	83.5
30-39	66.7	70.9	72.6	74.8	80.0	78.6	77.7	79.2	83.4	84.7	84.5	87.3	85.1	84.8	86.4	85.8	84.9
40-49	64.5	69.1	72.4	73.3	77.5	78.9	78.6	79.5	82.0	82.1	84.6	86.0	86.3	84.6	84.9	85.4	87.2
50-59	66.1	69.8	71.9	75.2	77.4	75.1	76.2	78.0	80.7	81.2	81.6	82.4	82.0	81.8	82.4	83.3	84.0
60-64	64.3	69.5	69.0	73.4	78.1	76.2	76.3	77.3	77.7	79.8	82.3	78.8	79.2	79.1	79.6	79.4	79.3
65-69	57.0	61.9	69.7	72.4	73.7	75.3	74.3	72.9	73.2	75.9	74.3	78.9	76.7	76.7	76.7	77.7	79.0
70-79	82.4	63.4	61.8	69.2	69.8	78.1	59.1	72.2	73.4	76.2	73.7	70.3	72.4	75.4	75.8	76.8	77.6
80+	.	.	.	.	.	*	*	*	*	.	.	62.5	*	57.1	.	*	*
Male	65.2	67.9	71.8	73.3	77.6	77.0	77.2	78.4	80.3	81.5	83.1	83.6	83.4	82.4	83.1	82.8	83.1
Female	67.6	70.0	72.6	74.1	78.1	77.5	76.7	78.5	81.8	81.7	82.9	84.0	82.4	82.1	83.6	84.2	84.5
White	67.8	70.9	74.2	74.9	79.1	78.7	78.2	79.4	81.6	83.0	84.1	85.1	84.7	84.3	84.7	84.8	85.7
African American	60.0	60.4	63.8	69.0	72.2	71.2	71.7	75.2	77.9	77.5	79.3	79.3	77.8	76.9	79.4	79.4	78.9
Other race	71.0	75.9	79.4	77.0	84.2	83.2	84.8	82.0	86.8	84.6	87.5	88.3	86.1	84.2	86.2	85.2	85.5
†Hispanic										84.6	85.8	88.5	86.8	86.0	86.7	87.3	87.2
†Non-Hispanic										81.3	82.7	83.2	82.5	81.8	82.8	82.7	83.1
Diabetes	65.6	68.5	74.6	72.0	77.3	76.3	77.6	79.4	82.0	82.2	82.0	83.3	83.3	82.0	83.1	82.0	83.0
Hypertension	62.5	67.3	68.6	72.9	76.5	75.1	74.5	77.7	78.9	80.4	80.3	81.8	80.9	77.8	80.9	80.5	80.9
Glomerulonephritis	67.7	69.2	72.0	74.0	78.4	78.1	78.1	78.4	81.5	81.1	84.2	84.8	83.0	83.9	84.7	85.3	84.4
Other cause	66.9	69.2	72.2	74.9	78.3	78.5	77.0	78.2	80.6	82.4	84.9	84.6	83.9	84.1	84.0	85.0	85.7
First transplant	66.9	70.1	73.0	74.5	78.7	77.8	77.5	79.0	81.7	81.9	83.4	84.2	83.4	82.9	83.8	83.4	84.2
Subsequent transplants	61.0	59.9	66.4	68.3	71.8	73.3	73.3	74.5	75.7	79.8	80.2	80.8	80.0	78.3	79.3	82.9	79.5
All	66.1	68.7	72.1	73.6	77.8	77.2	77.0	78.5	80.9	81.6	83.0	83.8	83.0	82.3	83.3	83.3	83.7
<b>ADJUSTED</b>																	
0-19	65.1	61.3	68.2	67.5	71.5	74.3	74.1	76.6	76.5	78.2	84.2	82.3	82.0	80.9	84.6	83.3	83.3
20-44	66.5	69.0	72.9	73.7	78.9	78.0	78.1	80.3	82.9	83.7	84.9	87.0	85.0	84.7	86.6	86.6	86.2
45-64	64.8	68.6	70.7	74.3	77.1	76.3	76.6	78.1	80.8	81.2	83.0	82.7	83.1	82.3	82.7	83.1	84.0
65-74	57.9	60.6	66.0	69.9	71.5	75.2	70.5	72.0	73.3	75.9	73.9	76.6	75.5	77.0	77.1	77.6	79.0
75+	100.0	59.4	84.4	55.9	84.1	70.7	44.7	68.3	57.2	67.3	71.1	68.7	72.3	60.8	70.2	74.8	76.1
Male	63.6	66.5	70.4	72.5	76.8	76.5	76.8	78.5	80.5	81.7	83.5	84.1	83.9	83.2	84.1	83.9	84.4
Female	65.5	68.1	71.0	72.6	77.0	76.4	75.9	78.1	81.5	81.7	82.8	84.0	82.4	82.4	84.0	84.7	85.2
White	65.7	69.2	72.8	73.9	78.4	78.3	77.8	79.4	81.7	83.2	84.4	85.5	85.1	85.1	85.5	85.9	86.8
African American	59.6	60.2	63.5	68.8	72.0	71.0	71.8	75.2	77.9	77.5	79.4	79.5	78.1	77.2	79.8	79.8	79.4
Other race	65.9	72.0	77.2	74.5	82.4	81.8	83.5	81.2	85.7	84.1	86.9	87.8	86.2	84.2	86.1	85.3	86.0
Diabetes	62.1	65.6	71.8	69.5	75.4	74.4	76.1	78.3	81.2	81.6	81.8	83.3	83.4	82.5	83.8	82.9	84.3
Hypertension	65.3	70.1	71.1	75.1	78.4	77.4	76.8	79.8	81.0	82.4	82.6	84.0	83.1	80.7	83.5	83.2	83.5
Glomerulonephritis	66.1	67.8	70.8	73.2	77.6	77.5	77.4	78.3	81.4	81.0	84.2	84.8	83.2	84.1	85.0	85.7	84.9
Other cause	65.4	67.4	70.7	73.6	77.0	77.3	75.9	77.6	80.1	82.0	84.5	84.4	83.6	84.1	83.8	85.1	85.9
First transplant	65.1	68.6	71.6	73.5	78.0	77.2	77.2	79.2	81.9	82.2	83.8	84.7	83.9	83.7	84.8	84.6	85.5
Subsequent transplants	59.0	57.5	64.1	66.2	69.8	71.4	71.5	72.9	74.0	78.4	79.0	79.7	79.0	77.1	78.4	82.2	78.7
All	64.3	67.1	70.6	72.5	76.8	76.4	76.4	78.3	80.9	81.7	83.2	84.0	83.3	82.9	84.0	84.2	84.7

on our website &amp; CD

Two-year probability of death with functioning graft: all deceased donor transplants (F.3.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

151

Table F.4

## Three-year graft survival probabilities: all deceased donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<1	65.0	33.3	66.7	12.5	66.7	61.5	50.0	83.3	75.0	62.5	62.5	87.5	70.0	50.0	70.0	.
1-4	61.1	57.9	66.7	55.8	64.3	81.3	75.9	84.0	70.8	73.0	68.8	91.7	78.1	72.0	87.5	76.7
5-9	56.9	61.2	67.1	59.7	70.3	84.1	68.7	83.1	80.7	77.9	90.3	81.8	73.7	81.8	80.4	76.1
10-14	64.1	50.8	62.4	59.2	71.1	70.4	74.1	71.7	71.8	76.5	84.5	81.2	80.5	84.4	80.9	81.6
15-19	55.6	55.5	59.7	63.3	62.9	63.7	64.6	64.4	65.6	64.6	70.4	65.2	72.7	68.1	77.2	73.6
20-29	62.5	62.3	68.0	66.9	72.8	70.6	70.5	74.5	75.5	75.5	78.8	79.0	77.6	77.5	80.7	78.9
30-39	60.2	65.4	66.9	69.9	75.4	74.4	72.4	74.9	78.3	79.6	79.8	82.4	80.0	78.8	82.4	81.2
40-49	57.3	63.0	67.2	68.3	72.0	72.9	73.6	75.1	76.7	77.5	79.3	80.9	81.1	80.3	81.0	81.3
50-59	60.1	64.9	66.3	70.2	71.6	70.3	71.9	72.9	75.4	76.6	75.8	77.3	77.3	76.8	77.6	79.1
60-64	57.3	64.9	64.4	68.5	71.7	72.3	68.6	71.8	71.6	75.8	74.9	73.2	74.4	73.8	73.3	73.5
65-69	54.2	54.8	61.8	64.0	66.9	68.4	67.7	67.3	68.0	70.2	64.9	72.2	69.4	71.0	70.7	71.9
70-79	70.6	56.1	55.9	61.5	65.1	69.8	54.3	65.9	63.3	68.0	65.4	64.1	65.9	69.5	68.2	69.3
80+	.	.	.	.	.	*	*	*	*	*	.	*	*	57.1	*	*
Male	58.5	62.1	66.0	68.0	71.7	71.8	71.3	73.5	74.8	76.6	77.0	78.4	78.3	77.5	77.9	77.7
Female	61.3	64.9	67.0	68.5	73.3	72.4	71.7	73.6	76.3	76.5	77.3	78.5	76.8	76.5	79.1	79.5
White	61.8	65.9	69.2	70.2	74.6	74.2	73.2	75.3	76.9	78.8	79.2	80.2	79.9	79.8	80.2	80.5
African American	51.1	52.7	55.9	60.7	63.8	64.0	64.2	68.0	69.9	70.3	71.1	72.5	71.1	69.6	73.1	72.7
Other race	65.6	71.6	74.9	74.2	79.0	78.6	80.4	77.7	82.8	79.2	81.1	83.4	81.7	81.4	83.2	82.1
†Hispanic										80.4	81.5	83.6	81.9	81.6	82.6	83.3
†Non-Hispanic										76.2	76.7	77.7	77.2	76.5	77.8	77.7
Diabetes	58.1	63.5	69.2	66.5	72.9	69.4	72.0	74.4	76.4	77.0	76.3	77.5	77.1	76.6	77.6	77.6
Hypertension	54.6	59.4	60.7	65.6	69.2	69.0	68.0	72.1	71.4	74.1	73.4	75.6	74.6	71.0	74.9	74.7
Glomerulonephritis	61.1	64.3	66.7	68.8	73.2	73.6	72.2	72.8	76.2	76.4	78.3	79.4	78.2	78.4	80.7	80.1
Other cause	61.6	64.1	67.2	70.4	73.0	74.8	72.6	74.4	76.2	78.1	79.6	80.3	79.8	80.4	79.8	80.6
First transplant	60.2	64.6	67.3	69.0	73.4	72.4	72.1	73.9	76.2	77.0	77.6	78.9	78.2	77.8	79.0	78.5
Subsequent transplants	55.4	54.2	60.5	63.1	65.5	69.6	67.3	70.8	69.6	73.4	74.0	74.9	74.5	72.1	74.0	77.5
All	59.5	63.2	66.4	68.2	72.3	72.0	71.5	73.5	75.3	76.6	77.2	78.4	77.7	77.1	78.4	78.4
<b>ADJUSTED</b>																
0-19	58.1	54.2	62.6	60.4	66.5	68.6	67.3	70.7	69.9	70.3	77.0	75.0	75.1	73.8	78.7	76.5
20-44	59.7	63.6	67.0	68.3	73.8	73.0	72.5	75.6	77.5	78.8	79.8	81.6	80.1	79.4	82.5	82.0
45-64	58.4	63.2	65.4	69.1	71.1	71.1	71.4	73.3	75.5	76.7	77.1	77.8	78.1	77.5	78.0	78.7
65-74	53.8	53.1	58.6	61.7	64.9	67.4	64.0	66.4	67.0	69.3	64.8	70.0	68.1	71.1	70.5	71.5
75+	100.0	60.0	69.3	46.9	84.6	71.5	45.5	56.2	47.4	62.9	61.8	62.3	70.5	59.2	63.0	65.4
Male	56.7	60.6	64.5	67.1	70.9	71.2	71.0	73.6	75.0	76.9	77.6	79.0	79.0	78.5	79.2	79.2
Female	58.9	62.8	65.3	66.7	72.0	71.2	70.7	73.1	75.9	76.5	77.1	78.4	76.7	76.9	79.6	80.1
White	59.5	64.1	67.6	69.1	73.8	73.7	72.8	75.3	77.0	79.1	79.5	80.8	80.4	80.7	81.3	81.9
African American	50.7	52.6	55.6	60.4	63.6	63.8	64.3	68.1	69.9	70.4	71.4	72.8	71.5	70.0	73.6	73.3
Other race	59.9	67.2	72.8	71.5	76.8	77.0	78.8	76.8	81.5	78.7	80.3	82.7	81.8	81.4	83.2	82.2
Diabetes	54.3	60.4	65.9	63.7	70.7	67.2	70.3	73.2	75.5	76.3	76.0	77.4	77.3	77.3	78.4	78.7
Hypertension	57.8	62.5	63.7	68.3	71.5	71.7	70.7	74.7	74.0	76.7	76.3	78.4	77.5	74.6	78.3	78.1
Glomerulonephritis	59.3	62.7	65.4	67.9	72.3	72.9	71.3	72.6	76.0	76.4	78.2	79.3	78.4	78.7	81.1	80.6
Other cause	59.9	62.1	65.5	69.0	71.6	73.5	71.3	73.7	75.6	77.5	79.1	80.0	79.4	80.4	79.7	80.7
First transplant	58.2	63.0	65.8	67.9	72.5	71.8	71.7	74.2	76.5	77.5	78.1	79.5	78.9	78.9	80.3	80.0
Subsequent transplants	53.2	51.7	58.0	60.7	63.2	67.5	65.2	69.0	67.5	71.7	72.5	73.5	73.2	70.6	72.9	76.5
All	57.5	61.4	64.7	66.9	71.3	71.2	70.9	73.4	75.3	76.7	77.4	78.7	78.1	77.8	79.3	79.5

on our website & CD

Three-year probability of death with functioning graft: all deceased donor transplants (F.4.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).



Table F.5

**Five-year graft survival probabilities: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<1	60.0	26.7	60.0	12.5	66.7	61.5	50.0	75.0	75.0	50.0	62.5	62.5	70.0	50.0
1-4	61.1	57.9	60.0	55.8	53.6	75.0	65.5	72.0	70.8	70.3	68.8	87.5	78.1	60.0
5-9	54.2	58.2	55.3	52.8	56.3	77.3	61.2	74.6	68.4	73.5	82.3	72.7	70.2	77.3
10-14	56.3	42.5	49.5	48.5	67.0	63.0	61.7	59.2	63.3	63.3	69.9	68.3	73.7	73.3
15-19	44.4	43.6	49.4	48.8	51.6	52.1	52.9	50.0	53.3	53.9	57.0	53.4	59.5	53.9
20-29	52.8	52.5	57.7	58.1	62.7	59.4	60.8	61.4	64.1	63.9	67.0	67.6	66.9	66.0
30-39	48.7	55.3	57.3	59.6	64.7	64.3	63.8	65.5	67.8	68.7	69.6	72.6	69.9	70.5
40-49	46.4	54.2	59.5	58.5	61.5	61.4	65.0	64.8	66.2	67.3	69.8	71.4	72.7	71.1
50-59	48.5	54.5	55.4	59.2	59.4	59.3	58.9	62.0	64.8	64.2	65.8	66.5	67.1	66.2
60-64	45.4	54.3	54.0	59.1	57.0	62.7	57.0	57.6	57.3	63.1	62.9	59.9	61.1	62.5
65-69	36.5	44.6	52.1	50.3	54.2	52.4	51.0	51.5	56.3	57.4	51.7	61.3	56.4	56.2
70-79	64.7	48.8	44.1	44.6	44.4	54.2	41.0	51.6	41.7	49.0	51.3	50.8	50.0	51.2
80+	.	.	.	.	*	*	*	*	*	*	*	*	*	*
Male	47.3	52.8	56.0	57.6	60.1	61.0	60.6	61.9	64.1	65.0	66.4	67.7	67.6	66.3
Female	50.8	54.5	58.1	58.5	62.8	61.1	62.1	63.0	64.4	65.4	67.0	68.1	67.2	66.9
White	52.0	56.7	60.4	60.7	64.5	64.0	63.7	64.8	66.5	68.2	69.7	70.8	70.5	69.8
African American	36.1	41.2	43.1	47.7	49.0	49.6	51.0	54.7	56.1	56.2	57.4	58.3	57.8	56.9
Other race	58.0	63.8	67.6	66.4	67.2	70.6	72.9	67.7	74.1	70.7	73.3	75.0	73.8	74.8
†Hispanic										71.3	70.8	74.2	71.5	70.5
†Non-Hispanic										64.5	66.2	67.1	66.9	66.1
Diabetes	45.4	51.6	57.4	54.9	60.1	57.0	59.8	61.1	64.6	63.8	64.8	65.3	65.3	64.9
Hypertension	41.2	47.5	49.4	54.6	55.2	55.6	55.3	59.5	58.7	59.7	61.6	62.7	61.5	57.9
Glomerulonephritis	50.5	55.0	58.3	58.6	61.8	62.8	62.7	61.5	65.0	66.4	67.9	70.0	68.5	68.7
Other cause	52.9	56.5	59.1	61.6	65.0	66.4	65.1	66.3	66.9	69.2	70.9	72.1	72.5	72.1
First transplant	49.5	54.7	57.9	58.9	62.2	61.2	61.7	62.8	64.9	65.8	67.0	68.4	67.8	67.5
Subsequent transplants	43.3	45.7	49.9	52.6	54.5	59.8	57.4	59.1	59.4	60.4	64.1	63.9	64.9	60.6
All	48.6	53.5	56.8	58.0	61.1	61.0	61.2	62.3	64.2	65.2	66.6	67.8	67.4	66.6
<b>ADJUSTED</b>														
0-19	50.4	45.7	52.1	49.8	57.2	59.4	56.7	58.2	59.6	60.8	65.7	63.8	66.2	62.1
20-44	48.7	53.7	57.5	58.6	63.3	62.4	63.7	65.3	67.4	68.4	69.6	71.7	70.6	70.3
45-64	47.1	53.3	55.6	58.6	58.9	59.8	60.0	62.0	63.9	64.6	67.0	67.0	67.7	67.3
65-74	37.0	43.0	48.8	46.6	49.9	51.2	48.2	50.9	52.7	55.1	51.1	58.4	54.7	55.2
75+	100.0	48.8	39.2	38.2	70.1	58.3	28.0	46.0	32.5	43.1	49.8	54.0	51.4	42.2
Male	45.4	51.2	54.2	56.7	58.9	60.3	60.2	62.2	64.4	65.3	67.1	68.5	68.5	67.7
Female	48.2	52.0	56.1	56.3	61.2	59.6	60.8	62.4	64.0	65.4	66.8	68.0	67.1	67.4
White	49.5	54.6	58.6	59.5	63.5	63.4	63.2	64.8	66.7	68.6	70.1	71.6	71.3	71.1
African American	35.9	41.1	42.9	47.4	48.9	49.5	51.2	54.7	56.2	56.3	57.8	58.7	58.3	57.4
Other race	51.9	58.8	65.0	63.2	64.2	68.5	71.0	66.6	72.4	70.1	72.2	74.0	74.0	74.8
Diabetes	41.5	48.1	53.5	51.7	57.3	54.4	57.7	59.5	63.5	62.9	64.5	65.2	65.4	65.9
Hypertension	44.6	51.1	52.7	57.7	58.2	59.1	58.7	62.9	62.0	63.3	65.4	66.6	65.3	62.5
Glomerulonephritis	48.5	53.1	56.7	57.6	60.6	61.8	61.5	61.2	64.7	66.3	67.8	69.7	68.7	69.1
Other cause	51.2	54.4	57.3	59.9	63.3	64.7	63.5	65.5	66.2	68.6	70.1	71.7	72.0	72.1
First transplant	47.3	52.8	56.2	57.6	61.1	60.4	61.3	63.1	65.4	66.4	67.7	69.3	68.7	68.9
Subsequent transplants	40.9	42.9	47.0	49.8	51.7	57.3	55.0	56.9	56.9	58.2	62.2	62.0	63.2	58.6
All	46.4	51.4	54.9	56.5	59.8	60.0	60.4	62.2	64.2	65.3	66.9	68.3	67.9	67.5

on our website &amp; CD

Five-year probability of death with functioning graft: all deceased donor transplants (F.5.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

Table F.6

## Ten-year graft survival probabilities: all deceased donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
<1	.	71.4	77.8	46.7	54.6	54.6	42.9	35.0	13.3	53.3	.	66.7	46.2	37.5	75.0	75.0
1-4	*	45.5	42.9	48.0	36.0	17.7	40.0	44.4	36.8	43.3	51.2	42.9	59.4	55.2	56.0	62.5
5-9	34.4	28.6	37.8	35.7	36.2	32.8	26.7	33.3	46.3	31.6	34.7	40.6	50.0	47.8	57.6	49.1
10-14	26.4	25.7	25.3	31.7	30.6	28.4	30.1	31.3	23.3	33.9	32.0	42.3	38.3	44.4	36.7	44.4
15-19	38.7	42.5	33.1	38.7	38.7	24.6	29.6	35.4	31.4	33.9	33.3	33.9	35.3	37.6	31.5	33.5
20-29	33.5	33.8	36.8	36.2	32.0	33.7	32.2	36.7	37.1	39.5	39.2	42.4	36.5	40.7	42.7	41.9
30-39	25.3	27.1	30.0	28.8	27.9	30.9	31.7	31.9	36.5	38.2	39.0	41.2	41.8	42.0	43.7	47.4
40-49	20.4	23.7	24.4	23.8	25.1	26.3	26.7	30.7	34.0	38.5	37.2	39.6	39.5	42.8	42.9	45.4
50-59	18.5	19.4	18.4	18.6	22.7	18.6	22.9	27.4	32.0	32.6	33.9	33.9	32.4	34.9	35.4	40.2
60-64	11.5	8.9	18.6	13.5	10.6	15.9	19.8	23.1	27.2	25.4	29.8	27.9	26.9	31.4	29.9	29.0
65-69	9.1	*	20.0	10.0	12.0	7.7	16.4	15.9	16.7	23.6	19.7	23.5	21.5	21.3	23.2	27.3
70-79	.	.	.	*	.	16.7	0.0	35.3	26.8	14.7	21.5	9.5	20.8	11.4	19.8	15.1
80+	.	.	.	.	.	.	.	.	.	.	.	*	*	*	.	.
Male	25.0	26.9	27.0	27.2	26.1	26.8	27.8	29.9	32.9	35.0	35.4	36.6	36.0	38.1	38.2	40.9
Female	27.2	28.4	31.7	30.2	29.5	28.8	29.4	33.1	35.0	37.7	37.2	39.5	37.5	39.6	40.9	42.8
White	29.4	31.4	31.8	31.8	30.2	31.1	32.2	34.7	36.5	39.6	39.1	40.3	39.8	41.4	42.2	44.2
African American	12.4	12.2	16.5	14.5	15.5	14.4	14.6	17.6	21.4	21.9	24.8	26.8	24.1	27.5	29.4	32.3
Other race	26.6	33.0	43.3	44.3	45.7	42.8	41.6	42.9	49.9	49.2	45.9	50.7	49.3	51.9	48.6	55.0
†Hispanic																
†Non-Hispanic																
Diabetes	20.7	24.5	26.0	22.3	21.5	22.9	22.4	24.9	25.9	29.9	29.9	30.9	29.1	33.0	32.4	38.3
Hypertension	19.6	20.7	21.2	21.0	20.0	18.0	20.2	22.3	25.9	27.8	31.2	30.6	28.4	32.1	33.4	33.7
Glomerulonephritis	31.1	30.3	30.9	33.5	30.0	33.3	32.5	33.6	37.1	39.3	38.4	41.4	40.0	41.3	41.4	44.4
Other cause	25.3	28.5	31.0	29.6	31.0	29.6	32.6	37.7	39.8	42.0	41.6	44.3	45.2	46.4	48.0	48.1
First transplant	27.1	28.4	29.3	30.0	29.1	29.7	29.6	32.0	34.8	37.0	36.6	38.4	36.9	39.4	39.5	42.6
Subsequent transplants	14.8	20.2	23.7	16.7	17.9	16.5	21.3	26.1	27.2	30.0	33.4	33.3	34.7	34.0	37.4	35.1
All	25.8	27.5	28.7	28.2	27.4	27.5	28.4	31.2	33.7	36.1	36.1	37.7	36.6	38.7	39.2	41.7
<b>ADJUSTED</b>																
0-19	30.9	34.1	32.0	35.8	35.1	26.7	29.0	33.9	31.0	35.2	34.4	39.0	38.9	41.3	39.6	40.6
20-44	25.6	27.8	30.8	29.0	28.2	30.8	31.0	32.2	35.7	38.6	38.3	41.5	40.1	42.7	44.4	46.9
45-64	16.1	16.7	17.7	18.7	20.5	19.6	22.3	27.4	29.9	31.3	33.7	33.0	32.4	35.5	36.6	39.6
65-74	7.2	.	17.8	13.0	8.6	5.9	12.2	16.6	16.8	20.4	18.5	19.6	19.8	18.1	21.5	24.2
75+	.	.	.	.	.	21.4	.	.	24.3	4.1	12.8	23.4	27.5	22.6	16.4	.
Male	20.9	22.8	23.3	23.5	23.3	24.1	25.5	27.9	31.0	32.9	34.4	35.2	35.1	37.6	38.5	41.3
Female	21.9	23.0	27.4	26.0	25.8	25.8	26.7	30.3	32.3	35.3	34.7	37.4	35.4	37.9	39.9	42.2
White	24.2	26.4	27.3	27.2	26.6	28.0	29.4	32.1	34.3	37.6	37.7	39.0	39.0	40.8	42.2	44.6
African American	11.4	11.4	15.7	14.0	15.1	13.8	14.5	17.7	21.4	21.7	24.7	26.8	23.9	27.7	29.4	32.4
Other race	19.9	24.6	33.7	33.6	38.2	35.4	34.3	36.3	43.8	45.4	42.1	46.7	46.2	49.5	47.1	52.7
Diabetes	15.4	19.3	20.6	17.9	17.1	18.6	18.4	21.5	22.9	26.0	26.9	28.0	26.3	30.6	30.5	36.7
Hypertension	22.2	22.1	24.4	23.8	23.9	20.3	23.7	25.5	29.5	31.1	34.7	33.9	32.5	36.0	37.6	37.8
Glomerulonephritis	27.5	26.4	27.4	29.7	27.7	30.8	29.7	31.3	34.9	37.1	37.0	39.8	38.6	39.6	40.9	44.0
Other cause	22.4	25.2	28.0	26.4	28.1	27.4	30.3	35.6	37.4	40.1	39.7	42.3	43.2	44.5	47.1	47.3
First transplant	22.5	23.8	25.5	26.0	25.6	26.7	27.0	29.6	32.7	35.0	35.2	37.1	35.8	38.8	39.8	43.3
Subsequent transplants	12.3	17.4	20.8	14.6	16.0	14.5	19.1	23.6	24.3	26.7	30.2	30.1	31.4	31.3	34.5	31.8
All	21.2	22.9	24.7	24.4	24.2	24.7	25.9	28.8	31.5	33.8	34.5	36.1	35.2	37.7	39.0	41.6

on our website & CD

Ten-year probability of death with functioning graft: all deceased donor transplants (F.6.1).





Table F.7

**90-day graft survival probabilities: all living donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	82.4	69.6	92.6	93.8	92.3	70.0	86.5	81.3	90.0	92.0	.	97.0	97.1	87.0	94.7	97.5	96.8	96.8
1-4	88.4	81.5	96.6	77.4	88.4	92.1	84.3	88.9	97.1	89.6	98.2	90.6	98.0	93.2	98.3	.	96.4	98.2
5-9	88.2	87.8	82.1	88.1	89.3	94.0	95.4	94.9	91.4	93.0	98.3	97.1	97.1	98.3	93.3	98.7	97.5	98.5
10-14	94.1	94.9	95.0	84.6	94.9	96.4	96.3	96.9	96.5	96.6	95.2	98.4	93.8	94.8	96.3	99.3	97.9	95.7
15-19	96.5	94.2	97.8	89.7	95.1	90.7	94.8	95.8	92.9	95.5	96.1	94.9	99.1	96.2	95.5	98.3	98.7	97.6
20-29	95.1	92.5	92.6	94.8	95.2	94.0	95.2	96.1	95.2	97.2	96.9	96.3	96.8	96.7	97.0	98.0	97.5	98.0
30-39	95.1	92.1	93.7	92.6	95.2	94.5	93.9	95.0	96.3	95.9	97.4	97.1	96.6	97.4	97.1	97.2	97.1	96.9
40-49	93.6	95.4	93.7	92.6	95.3	94.8	95.7	95.0	95.0	96.5	95.8	97.6	96.3	96.0	96.7	96.8	97.1	98.1
50-59	94.7	91.9	95.2	92.3	95.1	93.6	91.9	95.7	93.5	94.8	95.7	96.4	95.8	97.3	96.6	96.7	97.5	97.6
60-64	95.3	89.7	87.0	94.9	91.9	96.3	95.3	88.8	92.2	97.8	96.5	96.4	96.4	96.6	96.2	97.0	96.0	96.1
65-69	94.1	.	85.7	90.9	84.2	89.8	97.5	95.7	88.9	94.1	96.5	97.2	96.2	95.7	96.5	96.5	95.4	98.5
70-79	.	.	.	.	.	.	90.9	.	92.3	92.0	93.9	89.4	96.6	95.2	95.0	96.0	94.4	94.4
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	.	.
Male	94.4	91.5	93.0	92.2	94.6	94.2	94.7	95.1	94.5	96.6	96.9	96.9	97.2	96.7	97.0	97.3	97.4	98.1
Female	94.6	94.1	93.9	92.3	94.7	93.6	93.6	95.1	94.8	95.1	95.9	96.6	95.3	96.3	95.9	96.9	96.7	96.6
White	94.4	92.4	93.6	92.2	94.9	94.1	94.4	95.0	94.5	96.1	96.4	96.7	96.4	96.7	96.6	97.2	97.1	97.4
African American	94.3	91.7	90.3	91.6	91.8	92.2	93.4	94.6	95.0	94.9	96.6	96.9	96.0	95.6	95.5	96.8	96.6	97.3
Other race	96.1	97.1	98.6	95.6	100.0	96.8	93.5	98.0	96.4	97.3	97.3	97.1	98.0	96.6	98.3	97.5	97.4	98.6
†Hispanic										96.8	96.6	96.2	96.9	97.0	97.3	98.0	97.4	98.0
†Non-Hispanic										95.8	96.4	96.8	96.3	96.5	96.5	97.0	97.0	97.4
Diabetes	92.9	92.2	94.9	91.7	93.4	91.0	94.3	94.3	93.8	95.4	95.8	96.2	96.5	96.2	96.4	96.6	96.4	97.0
Hypertension	97.6	90.0	92.9	90.8	95.3	94.9	94.6	94.0	94.4	97.5	97.4	96.7	95.4	97.0	96.3	97.2	97.0	97.3
Glomerulonephritis	93.9	91.9	92.7	93.7	96.4	95.0	94.3	95.1	94.6	96.2	96.6	97.1	96.5	96.4	96.8	97.5	97.3	97.9
Other cause	94.7	94.0	93.3	91.6	93.7	94.2	94.0	96.2	95.3	95.4	96.4	96.7	96.7	96.7	96.6	97.1	97.3	97.5
First transplant	94.9	92.5	93.6	92.7	95.0	94.0	94.6	95.5	94.6	96.1	96.6	96.9	96.6	96.7	96.6	97.3	97.0	97.6
Subsequent transplants	90.0	92.3	89.8	86.3	90.6	93.3	90.2	91.4	95.2	94.6	94.8	94.4	94.9	95.0	96.1	95.7	97.5	96.6
All	94.5	92.5	93.4	92.2	94.6	93.9	94.2	95.1	94.6	96.0	96.5	96.7	96.4	96.6	96.6	97.1	97.1	97.5
<b>ADJUSTED</b>																		
0-19	92.4	89.7	92.9	85.3	91.6	90.3	92.1	94.0	92.5	93.5	96.3	95.3	96.5	94.6	94.5	98.3	97.5	96.6
20-44	95.2	92.6	93.3	93.8	95.2	94.7	94.7	95.6	95.5	96.5	96.8	96.8	96.7	96.8	97.1	97.1	97.3	97.3
45-64	93.7	93.8	93.5	91.5	95.2	93.7	94.0	94.5	94.5	96.1	96.1	97.0	96.0	96.9	96.6	97.1	97.1	97.8
65-74	94.5	100.0	86.5	91.1	86.4	89.6	96.0	96.4	90.9	93.5	95.7	95.6	96.4	95.8	96.2	96.7	95.6	97.5
75+	100.0	.	.	51.1	.	.	42.3	.	81.8	100.0	100.0	87.1	100.0	80.5	85.6	92.5	89.3	97.0
Male	94.1	91.0	92.6	91.6	94.3	93.8	94.5	95.1	94.5	96.6	96.8	96.9	97.3	96.9	97.2	97.4	97.5	98.2
Female	94.6	93.8	93.6	92.0	94.8	93.6	93.6	95.1	94.9	95.1	95.9	96.5	95.3	96.3	96.0	97.0	96.7	96.6
White	94.2	92.1	93.2	91.8	94.7	93.9	94.3	94.9	94.4	96.1	96.4	96.7	96.5	96.9	96.8	97.4	97.3	97.6
African American	94.4	91.9	91.0	91.8	92.2	92.4	93.5	94.7	95.3	95.0	96.6	97.0	96.0	95.7	95.6	96.9	96.7	97.3
Other race	95.7	96.8	98.6	95.0	100.0	96.5	92.9	97.9	96.8	97.2	97.3	97.1	97.8	96.2	98.4	97.5	97.3	98.4
Diabetes	92.2	91.0	94.2	90.7	92.8	90.4	93.9	94.1	93.7	95.4	95.8	96.3	96.6	96.4	96.7	96.9	96.7	97.3
Hypertension	97.7	90.5	92.9	90.8	95.4	95.0	94.8	94.2	95.0	97.7	97.6	96.9	95.8	97.2	96.6	97.5	97.3	97.6
Glomerulonephritis	93.8	91.7	92.7	93.4	96.3	95.0	94.2	95.0	94.5	96.1	96.5	97.0	96.4	96.4	97.0	97.5	97.3	98.0
Other cause	94.7	93.9	93.0	91.2	93.6	94.1	93.8	96.1	95.3	95.4	96.4	96.7	96.7	96.7	96.5	97.2	97.4	97.5
First transplant	94.8	92.1	93.3	92.2	94.8	93.8	94.4	95.4	94.6	96.1	96.6	97.0	96.6	96.8	96.8	97.4	97.1	97.7
Subsequent transplants	89.1	91.6	89.3	85.7	89.9	92.8	89.5	90.7	94.9	94.2	94.4	94.0	94.4	94.9	95.9	95.5	97.3	96.4
All	94.3	92.1	93.0	91.8	94.5	93.7	94.1	95.0	94.7	96.0	96.4	96.7	96.4	96.7	96.7	97.3	97.2	97.6

on our website &amp; CD

90-day probability of death with functioning graft: all living donor transplants (F.7.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

155

Table F.8

## One-year graft survival probabilities: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	70.6	69.6	85.2	87.5	92.3	70.0	86.5	75.0	90.0	88.0	.	97.0	97.1	87.0	92.1	97.5	87.1	93.6
1-4	88.4	77.8	96.6	71.0	88.4	92.1	82.4	88.9	97.1	85.4	92.6	90.6	98.0	93.2	98.3	93.5	96.4	96.4
5-9	82.4	82.9	82.1	86.4	88.1	92.5	89.2	91.5	88.9	90.1	98.3	97.1	94.3	98.3	93.3	97.4	96.2	98.5
10-14	89.4	86.7	92.9	78.2	91.8	91.8	92.7	96.9	91.3	95.8	92.2	96.9	93.0	93.0	95.5	98.5	97.1	93.1
15-19	90.5	87.7	94.8	83.3	92.0	84.9	90.7	92.1	91.8	94.0	92.3	92.1	96.7	93.8	94.2	96.1	96.2	94.8
20-29	89.2	89.0	88.8	92.9	93.6	91.9	92.6	93.4	92.8	94.8	95.3	93.5	93.8	93.5	94.5	95.8	95.4	96.2
30-39	89.8	87.6	90.7	90.2	93.2	92.0	91.4	93.3	94.1	93.7	95.5	95.0	94.7	95.7	95.2	95.4	95.1	94.0
40-49	88.8	91.1	91.5	89.4	92.9	92.5	93.0	91.7	93.0	94.8	93.4	95.8	94.6	94.1	94.4	94.7	95.5	96.6
50-59	90.2	88.2	89.3	87.4	91.9	89.1	86.9	92.1	89.3	92.3	92.7	94.3	93.6	93.4	93.6	94.1	95.9	95.2
60-64	89.4	86.2	84.8	89.7	82.3	92.5	88.7	82.2	87.0	92.8	91.6	92.8	93.4	95.0	92.5	94.3	94.4	93.5
65-69	91.2	70.0	85.7	86.4	84.2	77.6	87.5	95.7	82.7	89.1	92.0	93.1	93.7	93.2	91.4	93.6	93.7	95.4
70-79	.	.	.	.	.	.	*	.	88.5	92.0	93.9	78.7	91.4	88.4	92.6	92.6	90.6	89.8
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	*	.	*	.
Male	88.8	86.6	89.8	89.1	92.3	91.4	90.9	91.9	91.7	94.6	94.6	94.7	95.0	94.2	94.5	95.0	95.5	95.9
Female	90.0	90.0	90.8	88.9	92.4	90.3	90.8	92.9	92.1	92.3	93.0	93.9	93.1	93.8	93.6	94.5	94.9	94.1
White	89.0	88.0	90.9	88.9	92.7	91.4	91.2	92.6	91.9	94.0	93.9	94.5	94.4	94.4	94.3	95.0	95.3	95.3
African American	88.6	86.1	84.1	87.6	87.9	86.9	89.6	90.2	91.2	91.1	93.3	93.3	92.4	92.3	92.6	93.6	94.6	93.5
Other race	95.4	92.8	95.8	94.4	100.0	93.7	87.9	95.4	94.6	96.0	96.2	95.2	97.1	93.4	95.0	96.0	95.6	97.1
†Hispanic										94.2	95.4	94.6	94.9	94.2	95.1	96.0	96.1	96.3
†Non-Hispanic										93.5	93.7	94.4	94.2	94.0	94.0	94.7	95.1	95.0
Diabetes	86.7	86.2	91.5	87.3	90.4	88.6	89.9	91.6	91.6	93.0	92.4	93.5	94.0	93.7	93.4	93.4	94.5	94.4
Hypertension	92.2	86.2	88.1	89.7	91.4	91.5	91.2	90.2	91.2	94.7	94.4	93.7	92.4	93.2	93.9	94.7	95.3	94.7
Glomerulonephritis	89.8	86.5	89.1	90.4	94.2	92.3	90.9	92.0	91.9	94.0	94.2	95.0	94.3	93.9	94.4	95.7	95.4	95.8
Other cause	89.3	90.9	91.2	88.5	92.2	90.8	91.3	94.1	92.4	93.2	94.4	94.7	95.0	94.7	94.4	95.1	95.5	95.4
First transplant	89.7	87.9	90.5	89.5	92.7	90.9	91.1	92.9	91.9	93.7	94.1	94.6	94.6	94.3	94.4	95.0	95.3	95.3
Subsequent transplants	85.4	88.7	86.4	81.3	87.2	91.1	88.4	85.7	92.4	92.9	91.9	92.6	90.8	91.0	91.5	92.9	94.8	93.4
All	89.3	88.0	90.2	89.0	92.3	90.9	90.9	92.3	91.9	93.6	93.9	94.4	94.2	94.1	94.1	94.8	95.2	95.1
<b>ADJUSTED</b>																		
0-19	86.1	82.3	90.2	79.1	89.0	85.9	87.8	91.0	89.9	91.2	92.4	93.4	94.5	92.4	93.3	96.0	95.0	93.8
20-44	89.5	88.9	89.8	91.2	93.4	92.3	92.3	93.2	93.4	94.4	95.0	94.7	94.3	94.4	94.8	95.2	95.6	95.2
45-64	89.5	88.6	90.0	87.8	91.4	90.2	89.4	90.9	90.7	93.6	92.7	94.7	94.1	94.2	93.8	94.7	95.4	95.5
65-74	91.8	69.4	86.5	86.6	86.4	77.4	86.0	96.4	85.4	89.5	92.2	90.2	93.2	91.9	92.4	93.9	93.4	94.4
75+	100.0	.	.	51.1	.	.	42.3	.	81.8	100.0	100.0	74.9	100.0	80.5	81.2	85.4	82.5	85.6
Male	88.4	85.8	89.1	88.3	91.9	90.8	90.6	91.8	91.7	94.6	94.5	94.8	95.1	94.4	94.7	95.4	95.7	96.2
Female	89.7	89.6	90.4	88.5	92.3	90.1	90.7	92.8	92.2	92.2	92.9	93.9	93.1	93.8	93.7	94.7	95.0	94.2
White	88.7	87.4	90.3	88.4	92.4	91.1	91.0	92.5	91.8	94.0	93.9	94.6	94.5	94.6	94.6	95.3	95.6	95.6
African American	88.8	86.3	84.6	87.9	88.2	87.1	89.8	90.3	91.4	91.3	93.4	93.4	92.5	92.5	92.8	93.8	94.8	93.6
Other race	94.8	91.9	95.7	93.7	100.0	93.0	86.9	95.2	94.2	95.9	96.2	95.1	97.0	92.9	95.2	96.0	95.4	96.9
Diabetes	85.5	84.3	90.5	85.8	89.6	87.8	89.3	91.3	91.5	93.0	92.5	93.6	94.3	94.1	93.8	94.0	94.9	94.9
Hypertension	92.7	87.0	88.2	89.8	91.5	91.7	91.6	90.6	91.8	95.0	94.7	94.2	93.0	93.8	94.4	95.2	95.8	95.2
Glomerulonephritis	89.6	86.1	88.8	89.9	94.0	91.9	90.7	91.8	91.8	93.9	94.1	94.8	94.1	93.8	94.4	95.7	95.5	95.7
Other cause	89.1	90.6	90.8	88.0	91.9	90.5	91.0	94.0	92.2	93.2	94.3	94.6	94.9	94.6	94.4	95.2	95.5	95.4
First transplant	89.3	87.2	89.9	88.9	92.5	90.5	90.9	92.9	91.8	93.7	94.1	94.6	94.6	94.5	94.6	95.3	95.5	95.6
Subsequent transplants	84.2	87.9	85.7	80.4	86.3	90.4	87.5	84.6	92.0	92.3	91.3	92.0	89.9	90.5	91.0	92.5	94.5	92.9
All	88.9	87.3	89.6	88.3	92.0	90.5	90.6	92.2	91.9	93.6	93.9	94.4	94.3	94.1	94.3	95.1	95.4	95.4

on our website & CD

One-year probability of death with functioning graft: all living donor transplants (F.8.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).



**Table F.9**  
**Two-year graft survival probabilities: all living donor transplants**  
*by age, gender, race/ethnicity, primary diagnosis, & transplant number*

<b>UNADJUSTED</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<1	70.6	65.2	81.5	87.5	92.3	65.0	86.5	75.0	90.0	84.0	92.9	90.9	91.4	87.0	89.5	95.0	83.9
1-4	81.4	74.1	96.6	71.0	88.4	86.8	82.4	88.9	97.1	79.2	88.9	90.6	98.0	93.2	96.6	91.3	94.6
5-9	74.5	73.2	78.6	84.8	86.9	89.6	83.1	89.8	85.2	87.3	96.7	95.6	92.9	93.3	90.7	96.2	96.2
10-14	81.2	77.6	89.9	78.2	88.7	85.5	87.2	94.9	88.7	90.8	88.4	95.3	90.7	88.7	91.8	94.9	94.3
15-19	85.8	81.2	85.9	76.9	87.7	77.0	87.2	89.5	85.7	88.5	87.9	88.1	89.5	87.1	92.0	90.4	89.8
20-29	83.5	83.7	85.1	91.2	89.3	88.3	89.5	90.0	89.1	90.9	91.2	88.6	88.7	88.8	90.7	90.9	91.2
30-39	87.2	84.2	88.2	86.8	89.2	89.4	87.3	90.6	91.0	89.8	93.0	92.2	91.9	92.4	92.2	92.5	92.3
40-49	84.7	89.7	88.6	87.0	88.1	90.1	91.1	88.3	90.5	92.0	90.6	93.5	92.3	91.1	92.4	92.3	92.2
50-59	86.4	84.5	86.6	83.6	89.9	84.7	83.2	88.7	86.5	89.4	90.1	91.0	91.5	90.1	90.6	91.2	93.3
60-64	85.9	79.3	84.8	87.2	75.8	90.0	85.9	80.4	81.2	90.1	89.0	90.4	90.4	91.9	88.3	90.0	90.4
65-69	85.3	70.0	85.7	86.4	79.0	77.6	85.0	93.5	76.5	84.2	86.7	89.0	91.1	87.7	89.0	87.5	88.9
70-79	.	.	.	*	.	.	* 81.8	75.0	88.5	88.0	93.9	74.5	84.5	83.5	83.5	86.4	87.5
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	*	.	*
Male	84.8	81.6	87.1	86.8	88.7	88.0	88.1	89.2	88.6	91.1	91.7	91.6	92.1	90.6	91.8	91.5	92.2
Female	85.5	86.5	86.7	85.3	88.2	86.7	87.0	89.4	88.5	88.5	89.6	90.9	89.8	90.1	90.1	91.2	91.4
White	85.1	84.2	87.8	86.7	89.1	88.3	88.3	90.0	88.9	90.8	91.1	91.5	91.7	91.0	91.7	91.9	92.2
African American	82.6	78.3	78.4	80.1	81.9	80.9	84.8	85.2	86.4	85.4	88.3	89.4	87.1	87.2	87.4	87.7	89.4
Other race	90.7	87.0	94.4	91.1	97.7	90.5	84.1	93.4	91.0	94.7	94.1	92.9	95.5	89.7	92.8	93.9	93.8
†Hispanic										91.7	92.2	91.2	92.6	91.0	92.6	92.8	93.8
†Non-Hispanic										89.8	90.7	91.3	90.9	90.3	90.9	91.2	91.6
Diabetes	82.1	82.0	87.4	83.8	84.9	85.8	86.7	88.4	87.9	89.2	89.5	90.0	90.3	88.1	90.3	89.9	89.9
Hypertension	88.6	79.4	86.7	85.1	87.8	85.8	88.3	87.7	88.9	88.9	90.3	90.0	88.5	89.3	90.1	90.3	92.4
Glomerulonephritis	87.5	81.6	86.1	88.5	89.8	88.4	86.6	88.7	87.8	90.7	91.5	91.9	91.5	90.6	90.8	92.1	92.3
Other cause	83.3	87.6	87.4	85.7	89.9	88.2	88.6	91.1	89.6	90.4	91.3	91.9	92.3	92.0	92.1	92.2	92.5
First transplant	85.3	83.4	87.1	86.8	89.0	87.4	87.7	89.8	88.6	90.1	91.1	91.5	91.5	90.9	91.4	91.6	92.0
Subsequent transplants	82.4	84.5	84.8	77.0	82.8	87.2	86.1	83.7	88.3	89.2	88.1	88.4	87.2	85.6	88.0	89.2	90.5
All	85.0	83.5	86.9	86.2	88.5	87.4	87.6	89.3	88.6	90.0	90.9	91.3	91.1	90.4	91.1	91.4	91.9
<b>ADJUSTED</b>																	
0-19	79.3	74.0	84.2	75.5	85.9	78.6	83.5	88.6	85.4	85.4	87.6	90.1	89.2	86.6	90.0	91.1	90.4
20-44	85.7	85.1	86.5	88.8	89.1	89.5	88.9	90.4	90.4	90.8	92.1	91.4	91.0	91.1	91.8	91.9	92.2
45-64	85.4	85.0	88.1	84.2	88.2	86.6	86.7	87.6	87.4	90.9	89.8	91.8	91.7	90.8	91.1	91.9	92.5
65-74	86.3	69.4	86.6	82.2	82.0	75.5	84.0	89.4	80.8	84.6	87.9	85.9	90.1	86.7	88.8	87.6	88.9
75+	100.0	.	.	50.4	.	.	43.6	.	81.2	100.0	100.0	74.6	86.7	74.6	63.8	85.3	81.6
Male	84.2	80.6	86.2	85.9	88.1	87.3	87.7	89.1	88.5	91.2	91.7	91.6	92.3	90.9	92.1	92.0	92.6
Female	85.1	85.9	86.1	84.7	88.1	86.4	86.9	89.3	88.6	88.5	89.5	90.8	89.7	90.1	90.3	91.4	91.6
White	84.7	83.4	87.1	86.1	88.7	87.8	87.9	89.8	88.8	90.8	91.0	91.6	91.8	91.3	92.0	92.5	92.7
African American	82.9	78.6	79.0	80.6	82.3	81.3	85.1	85.3	86.6	85.6	88.6	89.6	87.3	87.6	87.6	88.0	89.6
Other race	89.7	85.4	94.2	90.0	97.6	89.4	82.8	93.1	90.4	94.5	94.1	92.7	95.2	88.8	93.1	93.8	93.5
Diabetes	80.5	79.6	85.9	81.9	83.6	84.8	85.9	88.0	87.7	89.2	89.6	90.2	90.7	88.7	90.9	90.8	90.7
Hypertension	89.3	80.5	86.7	85.2	87.9	86.1	88.9	88.2	89.6	89.6	91.0	90.7	89.4	90.2	90.9	91.3	93.1
Glomerulonephritis	87.2	81.0	85.7	87.9	89.5	87.8	86.4	88.4	87.6	90.5	91.2	91.6	91.3	90.4	90.8	92.1	92.3
Other cause	83.0	87.1	86.8	85.0	89.5	87.8	88.2	90.9	89.4	90.3	91.1	91.9	92.2	91.9	92.0	92.3	92.6
First transplant	84.9	82.6	86.3	86.1	88.6	87.0	87.5	89.7	88.6	90.2	91.1	91.6	91.6	91.1	91.7	92.1	92.4
Subsequent transplants	81.0	83.2	83.9	75.8	81.5	86.2	85.0	82.4	87.7	88.3	87.1	87.3	86.0	84.7	87.4	88.6	90.1
All	84.6	82.6	86.1	85.3	88.0	86.9	87.3	89.1	88.5	90.0	90.7	91.2	91.2	90.5	91.3	91.8	92.2



on our website & CD

Two-year probability of death with functioning graft: all living donor transplants (F.9.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

Table F.10

## Three-year graft survival probabilities: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<1	64.7	65.2	77.8	87.5	88.5	60.0	86.5	75.0	90.0	84.0	92.9	90.9	88.6	82.6	86.8	95.0
1-4	76.7	70.4	96.6	64.5	88.4	84.2	80.4	85.2	94.1	77.1	88.9	90.6	98.0	93.2	94.9	89.1
5-9	70.6	65.9	75.0	83.1	85.7	86.6	81.5	89.8	85.2	84.5	96.7	92.7	92.9	91.7	88.0	94.9
10-14	77.7	73.5	87.9	71.8	82.5	80.9	81.7	92.9	84.4	86.6	86.4	92.1	83.7	87.0	87.3	89.8
15-19	78.7	76.6	81.5	69.2	82.1	72.7	78.5	82.6	81.6	84.5	83.1	81.9	81.0	82.8	87.1	84.2
20-29	79.7	80.2	80.6	86.2	85.3	84.7	84.5	86.7	84.2	85.7	87.8	84.1	84.4	84.7	85.8	87.3
30-39	84.8	80.9	85.2	84.2	85.5	87.0	84.0	86.7	89.2	86.2	89.8	88.2	89.6	89.9	88.6	89.2
40-49	82.5	85.8	85.5	84.6	85.3	86.7	87.8	85.5	87.5	88.1	87.3	91.0	89.3	87.5	89.3	89.9
50-59	82.9	78.3	80.2	81.6	85.0	82.8	78.7	84.4	81.3	85.9	86.2	88.2	89.1	86.4	88.2	88.3
60-64	80.0	75.9	73.9	87.2	72.6	87.5	78.3	71.0	77.3	86.7	85.0	87.7	81.1	88.2	83.4	86.2
65-69	82.4	70.0	85.7	77.3	79.0	71.4	77.5	87.0	69.1	80.2	85.0	82.1	85.4	83.4	85.9	82.8
70-79	*	.	.	80.0	.	66.7	81.8	66.7	88.5	88.0	78.8	72.3	84.5	76.7	81.8	81.3
80+	.	.	.	.	.	*	*	*	*	.	.	.	.	*	*	.
Male	81.2	77.8	83.8	82.7	85.1	84.6	84.1	85.3	85.2	87.4	88.3	88.1	88.6	87.0	88.3	88.2
Female	82.4	82.5	81.7	82.3	84.2	83.9	82.3	85.6	85.0	84.5	86.3	87.3	85.9	86.7	86.7	87.9
White	81.6	81.1	84.1	83.0	85.7	85.7	84.3	86.4	85.8	87.2	88.0	88.4	88.3	87.4	88.6	88.7
African American	79.5	68.7	72.3	76.1	76.2	75.2	78.4	80.2	80.5	79.6	83.3	82.9	81.6	83.8	81.5	83.0
Other race	89.2	85.5	91.6	88.9	93.2	84.2	80.4	88.2	89.2	92.7	90.3	91.0	92.7	87.8	90.6	92.3
†Hispanic										86.8	89.6	87.9	89.4	88.0	89.7	90.6
†Non-Hispanic										86.1	87.1	87.7	87.2	86.7	87.3	87.7
Diabetes	78.7	77.6	84.1	80.1	80.1	82.4	81.7	84.3	84.3	85.2	85.2	86.0	86.6	83.5	86.3	85.2
Hypertension	85.8	73.0	80.5	81.0	83.5	82.1	83.9	82.8	83.7	84.4	86.3	84.6	84.5	84.8	87.7	86.5
Glomerulonephritis	83.6	78.0	82.2	85.3	86.2	85.2	82.4	84.5	83.7	86.9	88.4	88.5	87.3	87.0	86.7	88.8
Other cause	80.1	84.6	83.8	81.8	86.9	85.4	84.8	88.1	87.4	86.8	88.2	89.3	89.1	89.6	89.1	90.0
First transplant	81.9	79.7	83.1	83.1	85.4	84.1	83.4	85.9	85.1	86.5	87.9	88.0	87.9	87.7	88.2	88.5
Subsequent transplants	79.1	79.6	81.4	74.1	76.7	86.1	82.8	80.0	85.6	82.2	82.6	85.5	82.9	78.9	82.6	84.6
All	81.7	79.7	83.0	82.5	84.7	84.3	83.3	85.4	85.1	86.2	87.4	87.7	87.5	86.9	87.6	88.1
<b>ADJUSTED</b>																
0-19	73.2	69.1	80.6	68.9	81.0	73.9	77.5	83.8	81.8	81.3	84.5	85.5	82.3	83.2	85.1	85.8
20-44	83.0	81.6	82.8	85.2	85.5	86.3	85.1	87.2	87.4	86.5	88.9	87.5	87.9	87.8	88.0	88.4
45-64	81.9	80.4	82.5	82.4	84.2	84.4	82.3	82.8	83.5	87.7	86.2	89.4	88.0	87.2	88.0	89.3
65-74	83.5	69.6	86.6	73.3	82.0	69.4	78.1	82.3	75.4	81.4	83.6	80.0	86.0	81.5	86.1	83.2
75+	.	.	.	44.9	.	.	44.4	.	78.8	100.0	72.1	75.4	86.8	74.2	62.7	78.6
Male	80.6	76.6	82.7	81.5	84.3	83.7	83.5	85.1	85.1	87.5	88.2	88.2	88.8	87.4	88.8	88.9
Female	82.0	81.8	80.9	81.6	84.1	83.6	82.2	85.4	85.1	84.5	86.1	87.2	85.8	86.7	86.8	88.3
White	81.0	80.2	83.2	82.3	85.2	85.2	83.9	86.1	85.8	87.2	87.9	88.5	88.5	87.8	89.1	89.5
African American	79.9	69.2	73.1	76.8	76.8	75.8	78.9	80.4	80.9	80.0	83.7	83.4	81.9	84.3	81.9	83.6
Other race	88.0	83.9	91.4	87.4	92.8	82.4	78.8	87.6	88.5	92.5	90.3	90.8	92.2	86.8	91.0	92.3
Diabetes	76.8	74.6	82.2	77.8	78.5	81.2	80.6	83.7	84.1	85.3	85.4	86.3	87.3	84.3	87.2	86.5
Hypertension	86.8	74.5	80.6	81.0	83.7	82.5	84.7	83.5	84.9	85.4	87.2	85.7	85.8	86.1	88.7	87.8
Glomerulonephritis	83.3	77.2	81.7	84.6	85.8	84.6	82.1	84.0	83.5	86.5	88.1	88.0	87.0	86.7	86.7	88.7
Other cause	79.8	83.9	83.0	80.9	86.3	84.9	84.3	87.8	87.2	86.7	88.0	89.2	89.0	89.5	89.0	90.1
First transplant	81.4	78.6	82.1	82.2	84.9	83.6	83.0	85.8	85.0	86.7	87.8	88.0	88.1	87.9	88.6	89.1
Subsequent transplants	77.4	77.9	80.3	72.7	75.0	85.0	81.5	78.5	84.8	80.7	81.1	84.2	81.3	77.7	81.6	83.7
All	81.1	78.6	82.0	81.5	84.1	83.6	82.9	85.2	85.0	86.2	87.3	87.7	87.5	87.1	88.0	88.6

on our website & CD

Three-year probability of death with functioning graft: all living donor transplants (F.10.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).



158

Table F.11

**Five-year graft survival probabilities: all living donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<1	52.9	60.9	77.8	87.5	88.5	60.0	86.5	68.8	80.0	80.0	89.3	90.9	85.7	82.6
1-4	67.4	63.0	96.6	64.5	83.7	79.0	78.4	81.5	88.2	77.1	85.2	87.5	95.9	93.2
5-9	60.8	58.5	69.6	78.0	78.6	77.6	80.0	88.1	79.0	83.1	90.0	91.2	87.1	85.0
10-14	69.4	67.4	77.8	65.4	75.3	69.1	72.5	86.7	78.3	78.2	75.7	89.8	76.7	80.0
15-19	67.5	70.1	68.9	59.0	75.9	65.5	61.1	70.5	72.5	73.5	68.1	69.5	73.3	69.4
20-29	72.1	73.3	72.9	78.7	76.8	76.2	76.8	76.5	75.0	76.5	78.8	75.0	76.4	78.0
30-39	78.8	72.0	79.5	75.9	77.7	79.8	77.4	77.3	82.5	79.4	83.4	82.3	83.4	83.4
40-49	77.5	77.3	79.8	78.5	75.2	78.1	78.9	77.2	79.5	79.3	79.5	84.6	82.1	81.9
50-59	77.1	68.9	73.3	69.1	72.9	74.4	70.1	77.7	73.3	76.3	77.4	78.5	83.4	78.8
60-64	71.8	55.2	54.4	64.1	64.5	78.8	68.9	55.1	67.5	75.7	72.7	75.7	71.2	77.7
65-69	70.6	70.0	85.7	68.2	79.0	63.3	60.0	76.1	59.3	74.3	73.5	67.6	70.9	70.2
70-79	*	.	.	60.0	75.0	33.3	72.7	58.3	76.9	68.0	66.7	61.7	74.1	62.1
80+	.	.	.	.	.	.	.	.	.	.	.	.	*	*
Male	74.8	70.3	76.3	74.8	76.5	76.7	76.1	75.8	77.6	79.5	79.2	80.8	81.2	79.4
Female	75.0	73.7	74.9	73.6	75.8	75.4	73.4	77.2	76.5	75.2	78.3	78.5	79.0	79.4
White	75.3	74.0	77.8	75.1	78.1	77.9	77.1	77.4	78.0	79.3	80.1	80.8	81.8	80.3
African American	69.7	55.7	58.6	63.3	61.6	64.5	64.1	69.4	71.3	68.4	70.6	73.4	70.2	73.1
Other race	83.7	72.5	85.9	85.6	86.4	77.9	72.9	84.2	82.5	83.3	83.8	83.3	87.4	83.7
†Hispanic										79.2	83.1	80.7	82.5	82.7
†Non-Hispanic										77.5	78.2	79.7	80.0	79.0
Diabetes	71.4	66.3	74.6	70.9	70.1	73.0	71.2	73.8	75.7	74.5	75.2	75.1	76.3	73.4
Hypertension	80.1	60.3	71.4	68.2	70.5	71.6	75.1	71.4	71.1	74.1	76.0	76.2	75.3	76.7
Glomerulonephritis	76.6	71.2	75.2	77.9	76.9	77.7	74.2	75.3	76.3	77.8	79.1	80.6	80.3	79.7
Other cause	73.5	78.7	78.4	74.6	81.5	78.4	77.8	81.2	81.1	80.9	81.6	83.4	84.2	83.7
First transplant	75.0	71.9	76.0	75.1	77.0	76.0	75.3	77.0	77.3	78.3	79.2	80.1	80.8	80.1
Subsequent transplants	74.1	68.3	72.9	63.3	66.7	77.8	71.6	69.8	74.9	70.4	74.2	77.0	74.7	72.4
All	74.9	71.6	75.8	74.3	76.2	76.1	75.0	76.4	77.1	77.7	78.8	79.8	80.3	79.4
<b>ADJUSTED</b>														
0-19	62.4	62.1	70.8	61.4	74.1	64.6	66.6	74.4	73.1	73.0	72.0	78.4	74.9	72.9
20-44	76.6	73.8	76.2	77.6	77.0	78.3	77.7	77.5	79.7	78.4	80.9	80.2	80.6	81.3
45-64	76.7	69.9	75.0	71.3	74.3	76.5	73.8	75.8	75.5	78.8	77.9	81.1	81.7	80.0
65-74	73.0	70.2	86.3	64.9	77.7	59.3	62.6	71.8	65.5	73.5	72.3	67.0	73.8	68.8
75+	.	.	.	13.1	.	.	43.3	.	81.0	28.2	35.2	64.1	60.5	55.3
Male	74.1	68.7	74.8	73.2	75.3	75.5	75.4	75.5	77.5	79.8	79.1	81.0	81.6	80.1
Female	74.4	72.6	74.0	72.6	75.5	74.9	73.2	77.0	76.6	75.1	78.1	78.4	78.9	79.4
White	74.7	72.8	76.6	74.1	77.4	77.1	76.4	77.0	77.9	79.4	79.9	81.0	82.1	80.9
African American	70.2	56.2	59.7	64.0	62.3	65.2	65.0	69.8	72.0	69.0	71.3	74.1	70.8	73.9
Other race	82.2	69.8	85.7	83.8	85.8	75.6	71.0	83.5	81.5	83.1	84.0	83.2	86.6	82.5
Diabetes	69.0	62.3	71.7	67.8	67.9	71.3	69.7	73.1	75.5	74.8	75.6	75.7	77.5	75.0
Hypertension	81.4	62.3	71.7	68.1	70.9	72.2	76.2	72.5	73.0	75.6	77.5	77.8	77.2	78.5
Glomerulonephritis	76.1	70.2	74.5	76.6	76.1	76.6	73.7	74.5	75.9	77.3	78.4	79.9	79.7	79.4
Other cause	73.1	77.8	77.2	73.5	80.8	77.8	77.1	80.8	80.8	80.8	81.4	83.3	84.1	83.7
First transplant	74.4	70.5	74.7	73.7	76.2	75.2	74.8	76.8	77.4	78.6	79.2	80.3	81.1	80.6
Subsequent transplants	72.1	65.9	71.2	61.5	64.3	76.0	69.7	67.7	73.6	67.9	72.1	75.1	72.5	70.9
All	74.2	70.2	74.4	72.8	75.3	75.2	74.4	76.1	77.1	77.8	78.6	79.9	80.4	79.8

on our website &amp; CD

Five-year probability of death with functioning graft: all living donor transplants (F.11.1).

Probabilities for years prior to 1987 are available on our website, at [www.usrds.org](http://www.usrds.org).

Table F.12

## Ten-year graft survival probabilities: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
<1	66.7	25.0	50.0	40.0	46.7	50.0	53.9	35.3	56.5	66.7	75.0	73.1	50.0	83.8	56.3	70.0
1-4	20.0	55.6	12.5	36.8	50.0	71.4	55.6	53.5	51.9	86.2	48.4	60.5	68.4	68.6	70.4	58.8
5-9	45.8	47.4	27.3	27.6	51.1	51.0	47.9	35.3	39.0	51.8	55.9	64.3	55.2	55.4	66.1	63.0
10-14	38.3	31.6	37.9	42.3	40.4	37.7	40.7	48.2	41.8	52.5	52.6	52.6	52.7	52.3	64.3	47.0
15-19	45.5	52.7	48.8	44.1	50.8	39.5	49.4	50.3	48.7	53.3	36.5	56.8	45.3	49.4	44.2	53.6
20-29	60.2	56.7	50.0	53.2	56.1	55.9	53.2	54.4	60.1	56.6	58.9	60.1	54.6	58.5	57.4	56.4
30-39	59.1	50.6	51.9	54.8	55.5	52.3	57.9	56.3	52.5	61.1	61.2	59.9	58.8	59.6	59.6	62.7
40-49	45.2	45.3	51.0	53.6	48.1	55.4	57.4	52.6	54.6	56.5	57.5	57.2	59.4	55.8	53.9	58.1
50-59	33.3	40.2	42.2	55.0	53.1	50.5	54.4	52.8	49.1	49.2	42.5	46.2	48.9	45.9	49.9	48.6
60-64	.	*	50.0	46.2	50.0	64.4	56.8	38.8	37.9	26.1	28.2	38.7	38.8	38.7	32.7	36.4
65-69	.	.	.	.	*	33.3	45.7	41.2	30.0	42.9	50.0	63.2	44.9	25.0	37.0	27.2
70-79	.	.	.	.	.	*	22.2	42.9	.	.	60.0	25.0	33.3	27.3	50.0	38.5
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Male	51.9	49.2	47.5	50.7	52.7	51.2	54.5	51.8	52.0	56.7	55.5	59.0	55.7	56.8	53.8	56.7
Female	54.6	51.8	50.0	53.8	52.5	54.3	55.4	53.8	54.8	55.7	54.0	54.9	53.7	52.1	55.6	53.2
White	53.5	51.6	49.7	53.5	54.3	54.3	56.5	54.0	56.3	58.5	56.5	59.8	57.0	57.5	56.1	56.3
African American	46.1	40.5	39.2	39.6	37.4	39.1	42.8	40.4	31.3	37.4	38.1	38.1	39.4	39.9	44.4	47.5
Other race	61.9	48.8	56.0	63.3	66.2	60.0	61.2	64.3	55.1	66.2	65.6	68.2	63.2	56.1	67.1	63.3
†Hispanic																
†Non-Hispanic																
Diabetes	46.2	36.9	36.6	38.2	38.5	39.6	42.4	41.3	42.8	49.9	46.2	44.3	44.1	44.4	45.3	45.6
Hypertension	54.6	57.9	45.5	50.0	51.8	48.9	53.0	50.0	39.7	46.7	49.7	49.6	47.4	53.9	47.1	48.4
Glomerulonephritis	54.3	52.2	51.7	55.8	54.0	55.6	57.5	56.2	53.5	56.8	57.8	60.1	56.6	54.1	56.4	56.6
Other cause	53.5	51.1	51.8	55.5	58.7	58.4	60.6	56.6	63.0	62.6	58.9	65.7	62.2	61.9	62.2	62.2
First transplant	52.6	49.6	48.4	51.9	52.0	52.3	55.0	53.3	53.3	56.8	55.5	57.7	55.2	54.9	55.3	55.6
Subsequent transplants	59.2	64.3	48.8	51.4	58.9	53.4	53.3	44.8	50.0	49.2	45.3	51.7	50.0	54.9	46.5	51.2
All	53.0	50.2	48.4	51.9	52.6	52.4	54.8	52.6	53.1	56.3	54.8	57.2	54.9	54.9	54.6	55.2
<b>ADJUSTED</b>																
0-19	36.5	42.2	36.4	35.8	42.5	38.6	43.4	42.9	40.9	51.7	41.7	53.1	45.8	50.9	49.6	49.9
20-44	56.1	50.7	50.8	53.6	54.5	55.2	57.2	56.1	56.7	58.7	60.6	59.7	57.6	59.1	59.3	60.3
45-64	36.2	40.2	44.9	53.5	49.8	52.8	54.6	50.1	48.7	48.8	43.8	51.6	51.8	49.4	49.6	51.6
65-74	.	100.0	.	49.7	57.4	40.6	41.5	40.9	27.0	42.1	48.5	56.2	44.2	30.4	41.4	34.2
75+	.	.	.	.	.	.	17.1	.	.	.	12.1	.	.	52.3	.	35.8
Male	46.6	44.6	45.0	48.2	50.3	50.4	53.4	51.0	49.8	54.5	53.4	57.1	54.0	55.8	53.5	56.3
Female	50.0	48.5	47.0	51.2	50.2	52.8	54.0	52.9	52.6	54.0	52.1	54.2	53.0	51.6	55.4	53.6
White	48.8	47.2	47.0	50.7	52.3	53.1	55.6	53.3	54.5	56.8	55.0	58.7	55.7	56.6	55.7	56.3
African American	43.5	40.6	37.8	39.0	37.7	39.9	42.7	41.0	31.3	38.5	38.7	38.7	40.3	41.0	44.7	48.1
Other race	52.0	44.8	50.0	57.4	61.6	57.5	56.9	61.7	51.8	66.0	60.9	67.1	59.9	53.6	65.9	61.1
Diabetes	39.4	32.4	31.5	32.7	33.0	35.9	37.9	37.8	37.2	45.3	41.4	41.0	41.7	42.0	44.1	44.9
Hypertension	53.9	58.8	46.7	53.0	53.2	51.6	55.4	52.4	41.5	47.2	49.4	50.5	48.7	55.6	48.9	51.2
Glomerulonephritis	51.1	49.2	49.2	53.3	52.5	54.1	56.4	55.5	51.8	55.3	55.4	58.7	54.8	53.2	55.0	55.8
Other cause	51.1	48.5	51.0	54.2	57.5	57.7	60.0	56.2	61.7	61.2	57.5	64.6	61.3	60.9	61.7	62.0
First transplant	47.7	45.7	45.8	49.4	49.6	51.3	53.8	52.6	51.2	54.8	53.4	56.4	54.1	54.2	55.1	55.6
Subsequent transplants	54.2	60.9	46.5	49.1	56.6	51.0	51.0	42.7	47.2	46.7	44.1	49.2	47.3	53.3	44.8	49.6
All	47.9	46.0	45.6	49.3	50.1	51.2	53.6	51.7	50.8	54.2	52.7	55.8	53.5	54.0	54.2	55.0

on our website & CD

Ten-year probability of death with functioning graft: all living donor transplants (F.12.1).



Table F.13

**90-day probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	16.2	27.3	33.3	25.0	22.2	23.1	25.0	.	.	.	.	.	.	*	.	.	.	*
1-4	14.1	26.3	13.7	21.8	18.2	9.4	6.9	.	16.7	11.0	18.8	4.2	9.4	8.0	4.2	13.3	0.0	3.2
5-9	16.7	19.5	17.1	27.2	17.2	9.2	15.2	10.2	10.5	7.4	1.6	6.1	12.4	4.6	1.8	6.0	3.0	7.1
10-14	12.6	19.3	14.8	15.8	10.3	12.4	6.2	11.8	10.3	2.1	3.9	6.9	5.1	2.2	4.5	3.1	3.6	2.4
15-19	13.1	18.4	11.3	12.3	15.1	12.6	11.2	10.1	8.4	9.6	5.6	11.2	6.6	6.9	5.4	5.2	3.4	1.8
20-29	10.9	15.3	12.1	11.6	10.4	9.6	10.6	8.7	6.5	7.6	4.2	5.7	5.3	5.4	5.1	3.5	4.7	3.8
30-39	12.5	12.2	12.4	11.3	9.0	8.5	10.0	8.3	6.3	5.5	5.0	4.1	5.1	4.5	4.2	4.1	4.3	3.9
40-49	12.1	13.6	10.1	10.5	9.7	8.6	8.6	7.3	6.3	5.2	4.0	4.3	3.3	4.3	3.5	4.0	3.1	3.6
50-59	9.6	9.5	10.2	8.0	8.5	7.8	7.9	7.0	5.6	4.9	4.3	4.5	4.2	3.5	3.5	4.1	3.4	3.6
60-64	6.5	10.4	7.1	7.1	7.5	5.5	6.0	6.8	4.5	4.8	2.8	4.7	5.3	3.0	3.1	3.6	4.6	3.7
65-69	12.6	8.7	5.7	8.1	6.9	5.6	4.4	7.0	4.8	5.5	4.9	4.2	3.5	4.2	4.8	3.3	3.2	3.8
70-79	.	15.0	9.2	10.9	3.3	9.5	9.8	4.8	5.1	6.9	3.9	4.7	7.6	3.2	4.8	3.0	3.1	3.5
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	.	.
Male	10.9	12.7	10.8	10.1	9.1	8.3	8.3	7.0	6.0	5.7	3.7	4.7	4.1	3.6	3.9	3.9	3.5	3.3
Female	12.2	13.1	11.3	11.0	9.8	8.5	9.6	8.8	6.4	5.3	5.3	4.6	5.1	5.0	3.8	4.1	3.8	4.1
White	11.5	12.7	10.6	10.3	9.2	8.0	8.8	7.7	6.2	5.3	4.3	4.7	4.2	3.8	3.8	3.6	3.0	3.5
African American	11.4	14.4	13.3	11.6	10.4	10.0	9.5	7.5	6.1	6.4	4.8	4.8	5.3	5.0	4.2	4.9	5.2	4.5
Other race	9.9	7.9	6.1	7.9	7.6	7.3	5.7	7.4	4.5	4.1	2.4	2.9	4.1	3.4	3.0	3.6	3.0	1.9
†Hispanic	.	.	.	.	.	.	.	.	.	5.4	3.4	4.0	3.9	2.9	3.2	3.0	2.8	3.2
†Non-Hispanic	.	.	.	.	.	.	.	.	.	5.6	4.4	4.7	4.6	4.3	4.0	4.1	3.8	3.7
Diabetes	9.7	11.5	8.7	9.9	8.0	7.4	6.7	5.9	4.6	4.0	3.8	3.6	3.3	3.3	2.7	3.3	3.0	3.4
Hypertension	10.7	12.6	11.4	9.2	8.6	8.4	8.9	7.2	5.5	4.9	4.6	4.1	4.6	4.3	3.8	4.2	4.0	3.4
Glomerulonephritis	12.4	13.9	12.8	11.4	9.8	8.3	10.2	9.1	7.0	6.3	4.6	5.5	5.1	4.5	5.1	4.5	4.3	4.3
Other cause	11.9	12.9	10.8	10.7	10.6	9.4	9.5	8.3	7.3	6.9	4.3	5.3	5.1	4.5	4.2	4.0	3.6	3.5
First transplant	10.3	11.6	10.0	9.7	8.5	7.6	8.1	7.1	5.6	5.2	3.9	4.3	4.2	3.7	3.6	3.8	3.4	3.3
Subsequent transplants	18.3	20.5	17.4	14.8	15.0	13.3	14.1	11.9	9.6	8.3	7.2	7.2	6.9	6.9	6.2	5.0	5.5	6.1
All	11.4	12.8	11.0	10.5	9.4	8.4	8.8	7.7	6.1	5.5	4.3	4.6	4.5	4.1	3.9	4.0	3.6	3.6
<b>ADJUSTED</b>																		
0-19	14.1	20.0	13.8	16.5	14.6	12.4	11.0	9.5	9.5	7.3	5.7	8.0	7.0	6.0	4.5	5.4	3.2	3.1
20-44	11.9	13.3	11.7	11.4	9.4	8.4	9.7	7.8	6.3	5.7	4.5	4.1	4.5	4.5	4.0	3.5	3.7	3.6
45-64	9.9	11.3	10.1	8.3	9.1	8.2	8.1	7.1	5.5	5.1	3.8	4.7	4.2	3.6	3.4	4.1	3.6	3.5
65-74	12.0	10.9	7.0	9.9	6.9	6.6	5.7	6.8	5.4	6.1	4.8	4.5	4.7	3.7	5.0	3.1	3.3	3.5
75+	.	.	.	.	.	8.8	17.8	6.5	.	4.8	6.3	4.7	6.7	10.4	5.0	5.1	2.8	6.6
Male	10.2	12.2	10.5	9.7	8.8	8.0	8.2	6.7	5.8	5.7	3.6	4.6	4.1	3.6	3.9	3.9	3.6	3.4
Female	11.7	12.8	10.9	10.7	9.7	8.5	9.6	8.6	6.3	5.3	5.3	4.7	5.2	5.0	3.9	4.2	3.9	4.2
White	10.8	12.2	10.2	9.9	8.9	7.8	8.7	7.6	6.2	5.4	4.3	4.8	4.3	3.9	4.0	3.7	3.1	3.7
African American	10.2	13.2	12.1	10.6	9.4	9.1	8.9	7.0	5.8	6.1	4.6	4.6	5.1	4.9	4.1	4.8	5.2	4.4
Other race	10.3	8.2	6.3	8.2	7.6	7.4	6.0	7.7	4.5	4.0	2.4	3.1	4.3	3.5	3.1	3.8	3.2	2.0
Diabetes	10.1	12.2	9.3	10.6	8.6	8.0	7.2	6.3	4.9	4.3	4.1	3.9	3.7	3.7	3.0	3.6	3.2	3.7
Hypertension	9.0	10.7	9.9	8.0	7.4	7.5	8.1	6.5	4.9	4.4	4.0	3.7	4.2	3.9	3.4	3.8	3.7	3.3
Glomerulonephritis	11.7	13.3	12.2	10.9	9.4	7.8	9.9	8.6	6.6	6.1	4.4	5.3	4.9	4.4	4.9	4.4	4.1	4.1
Other cause	11.2	12.8	10.5	10.4	10.5	9.3	9.5	8.0	7.2	6.9	4.4	5.3	5.2	4.6	4.3	4.0	3.7	3.6
First transplant	9.9	11.4	9.8	9.5	8.4	7.6	8.1	6.9	5.5	5.1	3.9	4.3	4.3	3.8	3.6	3.9	3.5	3.4
Subsequent transplants	16.2	18.9	16.0	13.8	14.0	12.5	13.4	11.0	9.1	7.9	6.9	6.9	6.6	6.6	5.9	4.8	5.3	6.0
All	10.8	12.5	10.7	10.1	9.2	8.2	8.8	7.5	6.0	5.5	4.3	4.7	4.6	4.2	3.9	4.0	3.7	3.7

Table F.14

## One-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	16.2	27.3	33.3	40.0	22.2	23.1	25.0	.	.	.	.	.	.	*	.	.	.	19.2
1-4	23.0	42.1	20.9	24.5	22.1	18.8	14.1	.	20.8	13.9	18.8	4.2	9.4	16.4	4.2	16.9	.	3.2
5-9	32.5	25.6	19.8	31.6	20.3	9.2	18.4	13.6	10.5	13.3	3.3	7.6	14.3	6.9	3.6	7.5	7.5	7.1
10-14	19.0	26.3	24.5	23.8	17.5	16.1	9.9	11.8	13.8	4.2	6.9	8.9	7.7	5.6	9.1	6.1	7.1	4.0
15-19	23.2	27.5	21.2	19.2	21.6	18.5	16.1	15.4	16.4	14.6	8.5	18.0	11.1	11.6	9.3	7.5	8.2	4.6
20-29	19.1	22.0	16.6	16.7	14.5	14.8	14.5	12.9	9.8	10.7	8.4	7.9	8.0	8.6	7.5	7.4	7.9	6.5
30-39	19.9	18.1	17.3	15.7	12.8	12.6	14.2	12.1	10.0	8.0	7.5	6.3	8.3	6.5	6.5	7.1	6.8	6.8
40-49	19.9	19.6	15.6	15.1	13.2	11.3	12.0	10.6	9.1	8.2	6.7	6.1	5.8	7.0	5.9	6.6	5.2	5.3
50-59	15.0	13.8	13.5	12.5	11.6	11.3	11.4	10.0	8.0	7.5	6.2	7.0	7.2	5.8	5.9	6.0	5.5	6.0
60-64	14.9	13.1	11.0	10.8	9.4	9.2	9.4	9.2	7.3	7.4	5.1	7.1	7.4	5.9	5.7	6.1	6.9	6.2
65-69	24.4	14.3	12.6	13.0	8.2	7.2	10.3	11.2	7.2	8.0	7.5	7.5	6.0	6.9	7.0	7.5	4.7	6.1
70-79	.	17.8	9.2	17.5	10.3	9.5	15.3	8.2	10.4	9.1	4.6	8.7	10.6	5.5	7.7	6.3	6.4	6.7
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	*	*	.
Male	18.7	18.7	15.5	15.0	12.6	11.9	12.0	10.6	9.5	8.4	6.2	7.1	7.1	6.4	6.2	6.7	6.0	5.9
Female	19.6	18.4	16.5	15.4	13.4	12.3	13.6	12.0	8.9	8.3	7.7	6.7	7.5	7.2	6.5	6.3	6.0	6.2
White	18.7	17.7	14.7	14.4	12.3	11.3	12.2	10.8	9.1	7.7	6.3	6.5	6.4	5.6	5.7	5.8	4.9	5.7
African American	20.4	22.6	21.2	18.4	15.6	15.0	14.7	12.3	10.3	10.1	8.8	8.8	9.9	9.7	8.0	8.5	8.4	7.7
Other race	16.9	12.7	8.4	11.8	9.0	9.4	9.7	8.8	6.6	8.3	3.2	4.4	5.4	5.7	5.3	5.6	6.1	3.2
†Hispanic	.	.	.	.	.	.	.	.	.	7.9	5.8	5.0	5.5	5.4	4.3	4.9	5.0	5.1
†Non-Hispanic	.	.	.	.	.	.	.	.	.	8.4	6.9	7.2	7.5	6.9	6.6	6.8	6.2	6.2
Diabetes	16.4	16.9	12.6	14.7	11.0	10.8	9.9	9.1	6.6	6.1	6.0	5.5	5.2	5.7	4.4	5.7	5.0	5.6
Hypertension	20.6	19.2	16.7	15.2	12.7	12.6	12.4	11.2	9.2	8.7	8.1	8.0	7.8	8.3	7.3	7.7	6.6	6.1
Glomerulonephritis	20.3	19.4	17.7	16.0	13.4	12.4	14.3	13.1	10.6	9.4	7.0	7.7	9.1	7.3	7.5	7.0	7.1	6.7
Other cause	18.7	18.6	16.2	14.8	14.1	12.4	13.9	11.2	10.8	9.5	6.6	7.3	7.6	6.3	6.8	6.2	5.9	5.9
First transplant	17.9	17.1	14.6	14.3	12.0	11.3	11.9	10.4	8.6	7.9	6.3	6.4	6.7	6.3	5.7	6.3	5.5	5.5
Subsequent transplants	26.2	27.5	24.0	20.4	18.5	17.0	17.8	16.4	13.7	11.4	10.6	10.9	11.6	9.6	10.7	8.3	10.0	9.3
All	19.0	18.6	15.9	15.2	12.9	12.1	12.6	11.1	9.3	8.4	6.8	7.0	7.3	6.7	6.3	6.5	6.0	6.0
<b>ADJUSTED</b>																		
0-19	23.7	28.5	21.9	23.0	20.3	17.3	15.6	12.8	14.9	11.6	8.2	12.2	10.3	10.2	7.9	7.9	7.4	5.3
20-44	19.7	19.6	16.7	16.1	13.3	12.4	13.6	11.6	9.6	8.5	7.3	6.2	7.4	6.8	6.3	6.1	6.3	6.2
45-64	16.9	15.9	14.3	12.7	12.0	11.5	11.6	10.1	8.1	7.7	6.2	7.0	6.8	6.2	5.8	6.3	5.6	5.7
65-74	23.0	16.4	13.4	15.4	9.6	8.2	11.5	11.2	8.5	8.4	6.9	8.2	7.4	6.7	7.4	7.3	5.5	6.3
75+	.	.	.	11.0	.	8.8	30.5	6.5	12.0	14.7	10.0	7.3	9.1	10.4	7.7	8.4	6.7	7.6
Male	17.6	18.0	15.0	14.4	12.2	11.6	11.9	10.2	9.3	8.4	6.1	7.2	7.2	6.5	6.3	6.8	6.2	6.0
Female	18.8	18.0	16.0	15.1	13.2	12.1	13.6	11.7	8.7	8.2	7.9	6.8	7.6	7.3	6.6	6.4	6.1	6.4
White	17.7	17.1	14.1	13.9	12.0	11.1	12.1	10.7	9.0	7.8	6.4	6.6	6.6	5.8	5.9	6.0	5.2	5.9
African American	18.6	20.7	19.5	16.9	14.3	13.8	13.8	11.5	9.7	9.6	8.5	8.5	9.6	9.4	7.8	8.4	8.4	7.7
Other race	17.5	13.2	8.6	12.1	9.1	9.4	10.1	9.1	6.6	8.5	3.3	4.6	5.7	6.0	5.5	5.9	6.5	3.4
Diabetes	17.5	17.8	13.5	15.7	11.9	11.7	10.8	9.7	7.0	6.6	6.5	5.9	5.6	6.3	4.8	6.3	5.5	6.2
Hypertension	17.3	16.4	14.5	13.3	11.2	11.2	11.2	10.0	8.2	7.8	7.3	7.2	7.2	7.5	6.6	7.1	6.1	5.8
Glomerulonephritis	19.2	18.7	16.8	15.2	12.8	11.8	13.9	12.4	10.2	9.1	6.8	7.5	8.7	7.0	7.2	6.8	7.0	6.5
Other cause	17.7	18.4	15.7	14.4	14.0	12.4	14.0	10.9	10.5	9.4	6.7	7.3	7.6	6.3	6.9	6.2	6.0	6.0
First transplant	17.3	16.9	14.3	14.1	11.9	11.2	11.9	10.1	8.5	7.9	6.3	6.5	6.8	6.4	5.8	6.4	5.6	5.7
Subsequent transplants	23.6	25.4	22.2	18.9	17.3	15.9	16.9	15.4	13.1	10.9	10.1	10.4	11.1	9.3	10.2	8.0	9.8	9.1
All	18.1	18.0	15.4	14.7	12.7	11.8	12.6	10.8	9.1	8.3	6.8	7.0	7.4	6.8	6.4	6.6	6.2	6.2





Table F.15

**Two-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<1	16.2	27.3	33.3	40.0	22.2	31.6	25.0	.	.	.	*	.	.	*	.	.	12.5
1-4	28.9	42.1	20.9	27.4	26.2	18.8	14.1	.	29.2	16.8	18.8	8.3	9.4	20.6	4.2	16.9	.
5-9	38.3	30.2	23.8	34.6	25.0	11.5	21.6	13.6	14.1	14.9	4.9	9.2	16.2	9.3	7.2	13.7	9.1
10-14	28.7	36.8	30.3	30.9	23.8	27.2	16.1	17.8	18.2	10.6	11.8	13.9	13.7	6.7	13.8	9.2	12.9
15-19	31.0	35.3	29.8	25.6	29.2	24.5	22.8	24.8	24.1	24.8	15.0	23.7	16.9	22.8	15.8	18.5	16.6
20-29	26.6	29.6	22.4	23.5	18.8	20.4	19.3	17.9	15.4	16.5	13.0	13.3	14.3	15.5	11.6	12.4	13.5
30-39	26.8	23.6	22.7	20.6	16.3	16.3	18.7	16.0	13.2	11.3	11.3	9.2	11.0	11.1	9.9	10.3	11.1
40-49	25.1	24.2	19.9	19.1	16.5	14.8	15.2	13.7	11.5	11.7	10.1	9.1	8.6	10.2	8.9	9.5	8.1
50-59	19.5	17.5	16.8	15.1	14.3	14.7	14.3	12.2	10.1	9.8	8.6	9.8	9.5	8.5	8.7	8.9	8.4
60-64	19.0	15.6	14.5	13.4	11.0	11.7	10.7	11.6	9.7	9.1	7.5	8.9	9.5	7.6	8.0	9.4	9.6
65-69	24.4	18.9	16.2	13.6	10.6	10.5	12.3	13.2	8.8	9.4	11.4	8.1	8.7	8.5	9.1	10.3	7.0
70-79	0.0	17.8	16.8	17.5	14.0	9.5	18.9	9.2	12.9	11.3	6.2	11.2	13.9	8.0	8.4	8.2	9.2
80+	.	.	.	.	.	.	*	.	.	.	.	.	.	*	.	*	*
Male	25.0	24.1	20.3	19.5	16.0	16.2	15.8	13.9	12.5	11.8	9.9	9.9	9.9	9.7	9.1	10.1	9.3
Female	25.1	23.4	21.3	19.6	16.8	15.5	17.0	15.6	12.1	11.6	10.7	10.0	11.0	11.2	9.7	9.7	9.4
White	23.3	21.6	18.2	17.8	14.8	14.2	14.9	13.3	11.2	10.1	8.9	8.6	8.7	8.5	7.8	8.3	7.5
African American	31.3	32.2	29.9	25.6	22.3	22.2	21.7	18.3	16.1	16.0	14.1	14.3	15.3	15.1	13.2	14.1	13.6
Other race	21.7	17.0	13.9	16.3	11.7	11.8	11.1	12.1	8.1	11.0	6.6	7.0	7.2	8.7	7.5	8.0	8.6
†Hispanic	.	.	.	.	.	.	.	.	.	10.7	8.4	7.5	7.6	8.2	7.1	7.7	7.0
†Non-Hispanic	.	.	.	.	.	.	.	.	.	11.8	10.4	10.3	10.7	10.6	9.6	10.3	9.7
Diabetes	21.7	21.3	16.3	18.8	13.4	13.5	13.0	11.1	8.7	8.4	8.7	7.7	7.4	8.7	6.5	8.4	7.5
Hypertension	28.8	26.0	24.1	20.5	17.6	17.8	18.1	15.9	13.8	13.7	12.5	12.1	12.0	12.4	11.1	12.6	11.3
Glomerulonephritis	26.1	24.7	23.0	21.1	17.4	17.1	17.6	17.3	13.8	13.9	11.3	11.3	12.8	11.6	11.1	10.6	11.3
Other cause	24.2	23.4	19.8	18.1	16.9	15.5	17.0	14.4	13.6	11.9	9.1	9.7	10.1	9.6	9.5	9.2	8.6
First transplant	23.9	22.3	19.5	18.4	15.3	15.1	15.5	13.6	11.5	11.3	9.6	9.3	9.7	9.6	8.6	9.6	8.7
Subsequent transplants	31.9	33.2	28.1	26.1	22.9	21.0	21.6	20.9	18.1	15.2	14.5	14.9	15.0	15.2	14.6	11.9	14.8
All	25.0	23.8	20.7	19.5	16.3	15.9	16.3	14.5	12.4	11.7	10.2	10.0	10.3	10.3	9.3	9.9	9.4
<b>ADJUSTED</b>																	
0-19	31.5	35.9	28.2	28.6	26.7	23.7	21.1	19.3	21.1	18.6	13.4	16.8	15.3	17.2	13.1	15.1	13.9
20-44	26.3	25.5	22.2	21.4	17.0	16.7	17.9	15.5	13.3	12.4	11.3	9.6	11.0	11.3	9.4	9.7	10.2
45-64	21.6	19.8	17.8	15.6	14.7	14.7	14.3	12.6	10.2	10.4	8.7	9.8	9.2	8.9	8.6	9.4	8.4
65-74	23.0	20.3	18.1	15.8	12.5	11.0	14.0	13.1	10.2	10.0	10.5	9.4	10.5	8.4	9.3	10.1	8.1
75+	.	.	.	10.6	.	8.5	38.0	6.2	17.9	19.3	9.7	7.1	8.8	17.6	7.4	9.4	7.6
Male	23.5	23.2	19.6	18.6	15.5	15.7	15.6	13.4	12.2	11.7	9.7	10.0	9.9	9.8	9.1	10.2	9.6
Female	24.1	22.8	20.6	19.2	16.6	15.4	17.0	15.2	11.9	11.5	10.8	10.1	11.1	11.3	9.8	9.9	9.5
White	22.0	20.9	17.5	17.2	14.4	13.9	14.8	13.1	11.2	10.2	9.1	8.7	8.9	8.8	8.1	8.6	7.9
African American	28.6	29.6	27.4	23.5	20.4	20.4	20.4	17.1	15.2	15.3	13.6	13.8	14.8	14.7	12.9	13.9	13.6
Other race	22.4	17.6	14.1	16.7	11.8	11.8	11.4	12.5	8.2	11.2	6.8	7.3	7.5	9.1	7.7	8.4	9.0
Diabetes	23.0	22.3	17.3	20.0	14.4	14.6	14.0	11.9	9.3	9.0	9.3	8.4	8.1	9.5	7.1	9.2	8.1
Hypertension	24.4	22.3	21.0	18.1	15.7	15.9	16.3	14.3	12.4	12.3	11.3	11.0	11.1	11.3	10.2	11.6	10.5
Glomerulonephritis	24.8	23.8	21.9	20.1	16.6	16.3	17.1	16.3	13.2	13.4	10.9	11.0	12.2	11.1	10.7	10.3	11.0
Other cause	22.8	23.1	19.2	17.5	16.7	15.4	17.0	13.8	13.3	11.8	9.2	9.8	10.1	9.7	9.6	9.3	8.7
First transplant	23.1	21.9	19.1	18.1	15.1	15.0	15.5	13.3	11.3	11.2	9.6	9.4	9.8	9.7	8.7	9.8	8.8
Subsequent transplants	28.7	30.6	25.9	24.2	21.3	19.7	20.4	19.5	17.3	14.4	13.8	14.2	14.3	14.6	13.8	11.5	14.5
All	23.8	23.1	20.0	18.9	16.0	15.6	16.2	14.2	12.1	11.7	10.2	10.0	10.4	10.4	9.4	10.1	9.6



Table F.16

## Three-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<1	22.2	27.3	33.3	70.0	22.2	31.6	25.0	.	.	.	28.6	.	12.5	50.0	12.5	.
1-4	34.8	42.1	28.1	27.4	26.2	18.8	14.1	8.7	29.2	19.8	18.8	8.3	16.1	24.7	12.5	16.9
5-9	39.7	36.4	30.6	36.1	28.2	13.9	26.4	15.4	16.0	19.4	8.2	15.5	18.1	13.9	18.1	19.9
10-14	31.3	46.4	33.2	38.9	27.0	29.6	23.7	26.3	25.3	20.2	14.7	17.9	18.1	13.4	16.1	15.4
15-19	42.6	42.7	35.4	33.4	35.2	32.3	30.2	31.2	32.7	33.9	28.0	33.7	25.5	29.8	21.4	24.9
20-29	33.0	33.9	28.6	29.2	23.7	25.9	25.4	23.1	21.5	21.7	18.2	19.3	19.7	20.1	16.0	18.0
30-39	32.2	28.1	27.4	25.0	20.2	19.8	23.1	19.8	17.5	15.5	15.1	13.2	14.9	16.0	13.0	14.0
40-49	30.4	28.3	23.5	22.4	20.6	19.1	18.5	16.8	15.2	14.9	13.7	12.6	12.2	13.6	11.3	12.8
50-59	23.4	20.1	20.5	17.8	17.0	16.8	16.4	15.2	12.6	12.4	12.0	12.6	12.0	11.2	11.1	10.6
60-64	20.9	17.4	17.2	15.3	13.1	12.9	14.1	14.2	13.0	11.0	10.6	10.8	10.8	10.0	10.6	11.9
65-69	24.4	22.1	17.0	17.8	12.1	13.3	13.5	13.9	10.3	10.0	15.6	10.4	10.9	11.4	12.8	12.0
70-79	0.0	17.8	16.8	19.5	14.0	13.2	22.9	11.2	15.5	15.4	7.1	14.6	15.6	9.3	10.5	12.5
80+	.	.	.	.	.	.	*	.	.	*	.	.	.	*	.	*
Male	30.3	28.2	24.7	23.2	19.9	19.8	19.9	17.5	16.4	15.3	13.8	13.3	13.0	13.2	12.1	13.1
Female	30.2	27.2	25.4	23.9	20.3	19.2	20.4	19.1	16.0	15.1	14.4	13.9	14.7	15.0	12.5	12.8
White	27.6	24.9	21.9	20.8	17.6	17.0	18.1	16.0	14.3	12.8	11.8	11.5	11.4	11.4	10.3	10.6
African American	39.4	38.8	36.6	32.9	29.1	28.2	27.9	24.3	22.4	21.8	20.3	19.9	20.6	21.1	17.5	19.1
Other race	27.6	20.0	17.4	18.5	14.8	15.5	13.3	15.2	11.6	14.0	11.2	10.1	9.8	10.4	9.6	10.1
†Hispanic										14.0	11.6	10.6	10.9	12.0	9.8	10.5
†Non-Hispanic										15.4	14.3	13.9	14.0	14.2	12.6	13.4
Diabetes	26.7	24.1	19.5	22.1	16.0	17.8	16.2	14.1	11.9	11.0	11.5	10.7	10.6	11.7	9.4	10.2
Hypertension	35.5	31.9	29.9	26.7	23.2	22.4	23.2	20.1	19.7	18.4	17.8	16.4	16.4	17.8	14.8	16.5
Glomerulonephritis	31.5	28.9	27.8	25.4	21.3	20.8	22.2	21.7	18.1	17.8	15.6	15.4	16.2	16.0	14.0	14.4
Other cause	28.6	27.0	23.8	20.8	20.3	17.9	19.8	17.2	16.5	15.0	12.7	13.1	12.9	12.0	12.1	12.4
First transplant	29.1	26.3	23.7	22.3	18.9	18.8	19.3	17.2	15.2	14.5	13.3	12.7	12.9	13.0	11.4	12.6
Subsequent transplants	37.1	37.1	33.0	30.4	27.5	24.2	25.8	24.1	23.2	20.7	19.0	19.7	19.1	20.1	18.4	15.7
All	30.3	27.8	25.0	23.5	20.1	19.5	20.1	18.1	16.3	15.2	14.0	13.6	13.7	13.9	12.3	13.0
<b>ADJUSTED</b>																
0-19	38.7	43.1	33.2	35.2	31.0	28.7	27.5	25.5	27.9	26.6	20.5	23.7	21.9	23.9	19.2	21.0
20-44	32.2	29.9	27.2	26.0	21.3	20.9	22.4	19.3	17.7	16.5	15.4	14.1	15.1	15.6	12.5	13.6
45-64	25.3	22.8	21.3	18.2	17.8	17.3	17.2	15.7	13.3	12.9	12.0	12.3	11.7	11.7	11.1	11.5
65-74	22.8	23.0	18.7	19.8	13.7	14.2	16.0	14.2	12.1	11.6	14.1	12.2	12.7	11.0	12.7	12.6
75+	.	.	.	10.7	.	8.8	38.1	6.5	18.2	25.3	9.8	7.1	9.0	17.9	7.6	14.5
Male	28.5	27.2	23.9	22.2	19.4	19.2	19.7	16.9	16.0	15.2	13.6	13.3	13.1	13.3	12.1	13.3
Female	29.0	26.5	24.6	23.4	19.9	19.0	20.3	18.7	15.7	15.0	14.6	14.1	14.9	15.2	12.7	13.0
White	26.1	24.1	21.0	20.1	17.1	16.7	17.9	15.7	14.2	12.9	12.0	11.7	11.6	11.7	10.6	11.0
African American	36.2	35.8	33.7	30.2	26.8	26.0	26.2	22.8	21.1	20.8	19.5	19.1	19.8	20.5	17.0	18.8
Other race	28.5	20.6	17.6	18.9	14.8	15.5	13.7	15.7	11.6	14.2	11.5	10.5	10.2	10.8	10.0	10.5
Diabetes	28.1	25.2	20.6	23.4	17.1	19.2	17.4	15.1	12.7	11.8	12.4	11.6	11.6	12.8	10.2	11.1
Hypertension	30.3	27.6	26.3	23.7	20.7	20.0	21.0	18.2	17.7	16.6	16.1	14.9	15.2	16.2	13.5	15.2
Glomerulonephritis	30.0	27.9	26.4	24.3	20.3	19.9	21.6	20.6	17.4	17.3	15.0	15.0	15.5	15.3	13.5	14.1
Other cause	27.0	26.7	23.1	20.2	20.1	17.9	19.8	16.5	16.1	14.9	12.8	13.1	13.0	12.1	12.2	12.4
First transplant	28.2	25.9	23.3	21.9	18.7	18.6	19.3	16.8	15.0	14.4	13.4	12.8	13.1	13.2	11.6	12.8
Subsequent transplants	33.6	34.2	30.4	28.2	25.6	22.7	24.4	22.5	22.1	19.7	18.2	18.8	18.2	19.4	17.4	15.2
All	28.8	27.0	24.3	22.8	19.6	19.2	20.0	17.6	16.0	15.1	14.0	13.7	13.8	14.1	12.3	13.2

Table F.17

**Five-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants**

by age, gender, race/ethnicity, primary diagnosis, & transplant number

<b>UNADJUSTED</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<1	28.2	41.8	40.0	70.0	22.2	31.6	25.0	10.0	.	20.0	28.6	16.7	12.5	50.0
1-4	34.8	42.1	35.3	27.4	38.5	21.9	22.1	21.7	29.2	22.8	18.8	12.5	16.1	37.3
5-9	42.6	39.5	42.8	43.5	41.3	20.8	32.9	24.0	28.8	22.5	14.8	23.3	22.0	18.7
10-14	38.0	55.2	46.2	49.0	31.2	35.9	34.2	39.2	33.4	32.1	29.4	30.0	25.0	23.8
15-19	53.4	53.4	46.1	47.6	45.8	44.1	42.3	45.9	44.5	43.7	40.9	44.6	38.6	43.5
20-29	42.2	43.0	37.8	37.3	32.9	36.4	34.3	35.5	31.9	32.6	28.9	29.8	29.7	30.5
30-39	41.0	36.3	34.8	33.6	28.6	27.6	29.6	27.4	26.5	24.4	23.9	21.6	23.4	23.2
40-49	38.5	34.2	28.5	29.0	27.1	27.0	24.3	23.8	22.3	22.0	20.1	19.8	18.0	20.2
50-59	29.6	25.5	26.9	23.2	23.3	21.4	23.2	21.4	18.6	19.3	16.9	18.7	17.3	16.3
60-64	27.5	21.7	20.9	20.4	18.7	15.9	17.8	19.7	19.7	17.7	15.9	15.5	16.9	14.7
65-69	31.4	24.0	20.3	23.9	17.1	16.8	19.5	18.3	15.7	14.7	22.6	13.9	15.6	15.4
70-79	8.3	21.4	16.8	23.9	21.9	16.1	27.7	14.8	22.1	18.3	11.9	20.6	19.3	13.5
80+	.	.	.	.	.	.	*	.	.	*	.	.	.	31.4
Male	38.2	34.5	31.6	30.4	27.6	26.6	26.6	25.4	23.7	23.1	21.1	20.6	19.8	20.0
Female	38.6	35.3	32.4	31.5	27.4	27.1	27.0	26.8	24.8	22.8	21.3	21.2	21.4	21.2
White	34.4	31.2	27.3	27.2	23.6	23.1	23.8	22.9	21.0	19.6	17.8	17.4	16.8	16.8
African American	52.3	48.3	48.4	43.6	41.3	39.6	37.7	34.6	33.5	32.8	30.9	31.0	31.3	31.1
Other race	33.2	25.8	23.4	24.1	21.6	20.8	18.7	22.0	18.3	19.9	17.3	16.9	15.6	14.2
†Hispanic										20.3	18.7	17.3	17.8	18.9
†Non-Hispanic										23.3	21.5	21.3	20.8	20.7
Diabetes	34.4	31.4	26.3	29.3	23.4	24.6	22.4	21.6	18.9	18.7	17.7	18.1	17.4	17.2
Hypertension	45.8	40.6	39.1	35.1	33.0	32.1	31.9	29.2	29.0	28.9	27.5	25.7	25.7	27.7
Glomerulonephritis	40.2	36.2	34.7	33.6	29.6	28.9	29.6	30.7	26.7	25.3	23.2	23.0	23.6	23.1
Other cause	35.3	32.7	29.6	26.8	25.4	23.1	24.9	23.3	23.5	21.3	18.6	18.8	17.6	16.9
First transplant	36.8	33.2	30.4	29.4	26.1	26.0	25.7	24.9	23.2	22.0	20.5	19.8	19.6	19.1
Subsequent transplants	47.9	45.2	41.2	39.1	36.5	31.7	34.1	33.1	30.7	30.3	26.3	28.3	26.1	29.3
All	38.4	34.8	31.9	30.8	27.5	26.8	26.7	25.9	24.1	23.0	21.2	20.9	20.4	20.5
<b>ADJUSTED</b>														
0-19	46.1	51.3	44.1	46.0	40.1	37.6	37.8	38.5	38.0	35.4	31.8	33.9	31.1	35.4
20-44	41.4	37.9	34.8	34.0	29.6	29.6	29.4	27.7	26.4	25.2	24.0	22.7	22.9	23.3
45-64	31.7	28.4	26.7	24.0	24.0	22.6	23.2	22.1	20.0	20.0	17.3	18.5	17.6	17.2
65-74	30.9	25.5	22.0	26.0	19.7	18.0	21.4	18.4	18.3	16.0	21.2	16.6	17.2	15.0
75+	.	.	.	11.0	.	9.4	54.5	17.1	19.1	33.1	10.8	11.3	16.2	29.2
Male	36.1	33.3	30.6	29.2	26.8	25.8	26.2	24.5	23.2	22.9	20.9	20.6	19.9	20.1
Female	37.1	34.5	31.4	30.8	26.9	26.8	26.9	26.1	24.3	22.7	21.5	21.5	21.7	21.5
White	32.6	30.2	26.3	26.2	23.0	22.6	23.5	22.5	20.8	19.6	17.9	17.7	17.1	17.2
African American	48.3	44.8	44.6	40.2	38.1	36.6	35.5	32.5	31.6	31.2	29.6	29.7	30.1	30.2
Other race	33.8	26.4	23.6	24.4	21.4	20.5	19.1	22.6	18.2	20.1	17.7	17.5	16.2	14.7
Diabetes	35.8	32.5	27.6	30.8	24.9	26.3	23.9	22.9	19.9	19.9	18.9	19.5	18.8	18.8
Hypertension	39.7	35.5	34.8	31.4	29.8	28.9	29.1	26.6	26.3	26.3	25.1	23.5	24.0	25.5
Glomerulonephritis	38.3	35.1	33.1	32.1	28.3	27.7	28.8	29.2	25.8	24.6	22.4	22.4	22.8	22.2
Other cause	33.4	32.3	28.6	26.0	25.2	22.9	24.8	22.4	22.9	21.2	18.8	18.8	17.6	17.2
First transplant	35.6	32.6	29.9	28.9	25.8	25.8	25.7	24.3	22.8	21.9	20.5	20.0	19.9	19.5
Subsequent transplants	43.7	41.9	38.2	36.4	34.0	29.8	32.3	31.0	29.3	28.9	25.1	27.0	25.0	28.2
All	36.6	33.8	31.0	29.9	26.9	26.2	26.5	25.2	23.7	22.9	21.2	21.0	20.6	20.7



Table F.18

## Ten-year probability of graft failure necessitating dialysis or retransplantation: all deceased donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
<1	.	.	12.5	44.4	29.3	35.0	48.4	49.7	70.9	40.0	.	22.2	48.7	25.0	10.0	.
1-4	50.0	41.7	57.1	43.6	57.1	79.9	57.0	52.6	63.2	53.3	30.6	50.8	35.3	34.4	34.8	37.5
5-9	60.0	64.8	61.4	56.9	62.8	64.2	68.6	63.3	49.1	64.9	62.8	56.2	48.8	44.5	36.7	47.5
10-14	70.0	70.7	69.2	65.7	66.1	67.8	64.6	62.1	75.4	59.7	64.4	55.1	59.1	51.7	61.1	49.2
15-19	55.4	52.9	64.0	55.4	57.9	71.1	67.1	60.1	65.7	61.3	63.9	64.0	60.8	55.8	64.9	64.5
20-29	56.6	57.0	52.8	56.0	59.2	58.4	59.7	56.9	57.1	53.8	53.7	50.8	57.5	52.7	51.9	52.8
30-39	57.7	55.7	53.6	54.5	56.9	54.8	53.9	54.4	50.3	50.5	49.8	47.6	45.6	48.1	44.9	43.8
40-49	53.5	53.0	54.4	56.6	54.8	53.7	52.1	49.2	47.6	41.8	43.8	40.9	42.2	39.0	39.6	38.0
50-59	52.8	51.8	48.7	52.0	46.0	46.1	42.8	39.9	36.5	39.0	36.0	36.8	36.3	37.3	36.0	31.3
60-64	55.7	49.3	56.2	40.4	47.8	39.9	44.1	33.8	31.4	34.7	33.0	31.9	31.0	28.7	31.3	33.2
65-69	33.3	46.4	.	33.4	26.1	41.4	25.3	39.0	37.9	25.5	35.9	30.3	28.9	32.7	31.4	24.1
70-79	.	*	.	*	16.7	16.7	28.0	17.5	31.4	16.8	23.9	33.7	25.8	37.9	26.1	37.3
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.
Male	56.5	55.2	54.6	55.4	55.6	54.3	52.3	50.4	47.8	46.0	45.1	43.3	43.3	42.3	41.2	39.6
Female	56.5	55.5	53.5	54.4	55.1	56.8	55.8	51.8	49.1	46.9	47.1	44.3	45.0	43.3	43.2	41.4
White	52.4	50.0	50.2	50.9	51.8	50.7	48.1	46.4	44.4	40.8	41.2	39.5	38.8	39.0	37.4	35.8
African American	73.1	76.8	69.0	71.5	70.8	72.5	73.5	68.1	64.2	66.8	62.2	59.5	62.0	56.7	55.7	53.9
Other race	50.5	53.6	46.1	42.2	35.1	37.6	42.0	41.8	34.7	33.9	37.5	33.7	35.2	33.6	34.2	31.4
†Hispanic																
†Non-Hispanic																
Diabetes	48.1	44.5	45.5	48.9	51.1	51.5	49.7	48.5	48.1	44.3	45.2	42.1	43.5	41.2	39.9	36.1
Hypertension	70.5	65.4	63.3	63.7	66.8	66.7	64.7	61.2	56.8	55.1	51.9	51.9	52.8	49.4	49.1	47.9
Glomerulonephritis	59.6	59.3	58.4	56.5	57.5	54.6	55.0	52.6	49.4	49.4	49.3	45.8	45.8	46.1	45.7	43.1
Other cause	52.0	52.7	50.2	52.8	51.0	53.1	49.9	46.1	43.7	40.7	39.8	38.4	37.4	37.1	35.8	36.7
First transplant	55.0	54.1	52.9	52.9	53.3	52.0	51.3	49.1	46.5	44.5	44.3	42.2	42.6	41.1	40.9	38.6
Subsequent transplants	69.3	65.2	64.3	70.4	68.0	71.4	66.9	62.1	59.8	57.6	55.0	53.1	52.4	54.1	49.4	51.7
All	56.5	55.3	54.2	55.1	55.4	55.2	53.6	51.0	48.3	46.3	45.9	43.7	43.9	42.7	42.0	40.3
<b>ADJUSTED</b>																
0-19	63.9	61.0	64.8	59.2	61.8	69.9	67.3	61.3	66.5	60.3	62.1	58.5	58.1	52.3	56.8	56.4
20-44	58.4	56.6	54.0	56.4	57.6	55.9	56.1	55.2	52.3	50.0	50.1	46.9	47.9	46.8	44.5	44.1
45-64	55.0	57.1	53.8	54.2	50.3	49.3	46.7	41.4	40.1	40.5	37.4	38.4	38.0	37.9	36.9	34.1
65-74	28.8	48.5	.	40.5	28.1	45.6	27.2	39.6	40.0	27.4	36.2	33.3	31.1	35.4	32.6	29.3
75+	.	.	.	100.0	.	55.5	.	.	.	.	11.9	29.9	10.2	57.4	13.8	19.9
Male	53.6	52.3	51.3	51.8	51.9	50.8	49.7	47.9	46.2	44.6	43.2	42.0	42.0	41.4	39.7	38.6
Female	54.2	53.3	50.6	51.9	52.8	54.0	53.4	50.1	48.2	45.7	46.4	43.6	44.5	43.3	42.3	40.6
White	49.1	46.9	47.1	47.7	48.7	47.4	45.5	44.0	42.9	39.3	39.8	38.3	37.8	38.3	36.6	35.2
African American	68.0	70.8	63.0	65.7	64.7	67.2	68.3	63.4	60.1	62.2	58.0	55.3	57.6	53.4	52.4	51.2
Other race	52.5	53.9	47.3	43.2	36.6	37.1	43.0	42.0	35.1	33.7	37.4	32.9	34.2	33.8	34.7	30.5
Diabetes	49.0	45.3	46.4	49.5	52.2	51.7	50.1	49.5	48.8	45.5	46.5	43.7	45.3	43.0	41.5	37.4
Hypertension	61.6	57.5	53.6	55.3	57.6	60.4	56.8	54.3	50.5	49.9	47.2	47.5	48.2	45.6	45.0	44.0
Glomerulonephritis	56.2	56.2	55.9	53.5	54.2	51.5	53.2	50.5	48.2	47.7	47.5	43.9	44.1	45.0	43.9	41.8
Other cause	49.5	49.8	46.6	49.7	48.3	49.2	47.3	43.7	43.1	39.5	38.6	37.9	36.9	36.8	34.3	35.7
First transplant	52.5	51.6	49.8	50.1	50.9	49.6	49.5	47.6	45.8	43.8	43.5	41.6	42.1	40.8	39.9	37.8
Subsequent transplants	64.9	61.3	60.3	65.3	63.4	67.0	62.9	58.0	56.4	54.4	52.3	50.4	50.0	52.0	47.0	50.3
All	54.0	52.8	51.1	52.0	52.4	52.1	51.2	48.8	47.0	45.1	44.5	42.7	43.0	42.2	40.8	39.4



Table F.19

**90-day probability of graft failure necessitating dialysis or retransplantation: all living donor transplants**

by age, gender, race/ethnicity, primary diagnosis, &amp; transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	17.7	13.9	7.4	6.3	3.9	15.3	13.5	7.1	3.5	8.0	.	3.0	2.9	8.7	5.3	.	3.2	3.2
1-4	11.6	18.5	3.5	16.9	7.0	7.9	13.9	11.1	.	8.5	1.9	9.4	2.0	6.8	.	.	3.6	.
5-9	11.8	9.8	16.3	3.5	9.6	6.0	4.6	5.1	5.0	5.7	1.7	1.5	2.9	1.7	5.3	1.3	1.3	1.5
10-14	5.9	5.1	4.1	7.8	3.1	1.8	3.7	3.1	3.5	2.5	4.9	0.8	3.9	5.2	3.7	0.7	2.1	3.5
15-19	3.0	5.8	2.2	5.9	3.7	7.9	5.2	4.2	6.6	4.0	3.4	4.5	1.0	3.8	4.5	1.8	1.3	1.9
20-29	4.4	6.9	5.8	4.2	4.6	5.5	3.6	3.7	4.1	2.8	2.8	3.7	3.0	3.2	2.4	1.7	2.1	1.9
30-39	3.2	6.5	5.7	6.0	3.9	4.9	4.4	4.0	3.2	3.4	2.0	1.9	2.8	2.4	2.3	2.1	2.7	2.7
40-49	4.8	3.2	5.7	4.8	3.7	4.7	3.9	4.7	4.1	2.3	3.2	1.7	2.9	3.0	2.9	2.8	2.6	1.5
50-59	3.6	5.0	3.2	4.9	3.3	4.5	6.3	2.9	4.4	2.3	2.4	2.6	2.6	1.4	2.0	2.0	1.5	1.4
60-64	3.6	.	8.8	2.6	3.3	1.3	4.7	6.6	4.6	1.7	1.8	1.2	1.0	1.8	1.7	1.1	2.7	2.6
65-69	3.0	.	.	.	5.3	4.1	.	4.4	5.0	2.0	.	1.4	1.9	0.4	2.8	1.5	2.3	0.3
70-79	.	.	.	.	.	.	9.1	.	7.7	4.0	3.1	.	.	1.0	0.8	1.7	3.2	2.9
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	*	.
Male	4.6	7.1	5.8	5.5	4.1	4.8	4.3	3.9	4.0	2.1	2.2	2.1	1.7	2.2	2.0	1.7	2.0	1.3
Female	3.9	4.4	5.1	5.1	4.2	5.2	5.3	4.4	4.3	4.0	2.9	2.6	3.7	2.9	3.2	2.5	2.6	2.6
White	4.4	5.9	5.3	5.4	3.9	4.9	4.6	4.2	4.1	2.6	2.6	2.3	2.6	2.3	2.4	2.0	2.2	1.9
African American	4.7	8.3	8.4	5.3	7.0	6.0	5.5	4.4	4.3	4.1	2.1	2.4	2.8	3.0	3.5	2.1	2.6	2.0
Other race	1.6	2.9	1.4	3.3	0.0	2.1	5.7	1.3	3.0	2.7	2.2	1.9	1.6	2.8	0.8	2.2	2.1	0.9
†Hispanic	.	.	.	.	.	.	.	.	.	1.4	2.6	2.9	2.2	2.1	1.9	1.6	2.1	1.6
†Non-Hispanic	.	.	.	.	.	.	.	.	.	3.1	2.5	2.2	2.6	2.5	2.5	2.1	2.3	1.9
Diabetes	4.8	6.8	4.4	5.9	4.5	7.6	4.1	4.0	3.7	2.8	1.9	1.8	2.5	2.0	1.9	1.8	1.8	1.8
Hypertension	2.4	6.5	5.7	5.2	4.3	4.0	4.9	5.6	4.3	1.6	1.8	2.5	3.0	1.6	2.6	2.2	2.5	1.8
Glomerulonephritis	4.7	6.8	6.3	4.5	3.2	4.2	4.9	4.1	4.9	3.1	3.0	2.6	2.4	3.0	2.6	1.9	2.4	1.8
Other cause	4.4	4.8	5.3	5.7	4.8	4.6	4.9	3.4	3.5	3.2	2.7	2.4	2.6	2.7	2.7	2.1	2.4	1.8
First transplant	4.1	6.0	5.3	4.8	3.8	4.9	4.5	3.8	4.1	2.7	2.4	2.0	2.4	2.3	2.4	1.8	2.3	1.7
Subsequent transplants	6.8	6.4	8.5	12.3	8.9	6.7	7.0	7.0	4.5	4.7	4.2	5.3	3.8	4.6	2.8	3.8	2.1	2.8
All	4.3	6.1	5.5	5.3	4.2	5.0	4.7	4.1	4.1	2.9	2.5	2.3	2.6	2.5	2.5	2.0	2.3	1.8
<b>ADJUSTED</b>																		
0-19	7.1	8.4	6.3	7.9	6.0	7.3	7.5	5.3	5.6	5.3	3.4	3.8	2.7	5.0	5.0	1.4	2.2	2.6
20-44	3.6	6.4	5.8	5.1	4.2	4.8	4.2	3.8	3.8	2.9	2.7	2.5	2.8	2.7	2.3	2.3	2.4	2.3
45-64	4.7	3.6	5.3	5.4	3.2	4.8	4.9	4.2	3.9	2.2	2.2	2.1	2.6	2.1	2.3	2.0	2.1	1.5
65-74	3.1	.	.	.	4.6	4.2	2.2	3.6	4.6	2.6	0.8	1.1	1.4	0.6	2.0	1.4	2.3	1.0
75+	.	.	.	47.2	.	.	76.5	.	18.9	.	.	.	.	5.7	3.8	3.2	9.4	2.8
Male	4.5	6.5	5.4	5.3	4.0	4.7	4.2	3.7	3.9	2.0	2.3	2.2	1.8	2.3	2.1	1.8	2.2	1.5
Female	3.7	4.1	4.8	4.8	3.8	5.0	5.1	4.2	4.1	4.1	2.9	2.7	3.9	3.1	3.4	2.7	2.8	2.8
White	4.2	5.3	4.9	5.1	3.6	4.7	4.4	4.1	4.1	2.7	2.6	2.4	2.7	2.5	2.5	2.2	2.4	2.1
African American	4.4	7.1	6.8	4.5	6.0	5.6	5.1	4.1	3.9	4.0	2.0	2.3	2.8	3.1	3.6	2.1	2.7	2.1
Other race	1.5	2.8	1.3	3.5	0.0	2.1	5.5	1.3	2.4	2.7	2.2	2.0	1.7	3.2	0.9	2.3	2.2	1.0
Diabetes	5.4	7.7	5.1	6.8	5.1	8.7	4.7	4.6	4.4	3.4	2.4	2.2	3.1	2.5	2.4	2.3	2.2	2.3
Hypertension	2.3	5.8	5.4	5.1	4.2	3.9	4.9	5.5	4.1	1.7	1.9	2.5	3.0	1.7	2.7	2.3	2.7	2.0
Glomerulonephritis	4.5	6.2	5.7	4.2	3.0	4.0	4.5	3.9	4.8	3.1	3.0	2.6	2.5	3.0	2.5	2.1	2.5	2.0
Other cause	4.1	4.0	4.7	5.1	4.0	4.2	4.5	3.1	3.2	2.9	2.5	2.3	2.5	2.8	2.7	2.2	2.4	2.0
First transplant	4.0	5.6	5.0	4.6	3.5	4.7	4.4	3.7	3.9	2.7	2.4	2.1	2.6	2.5	2.6	2.0	2.5	1.9
Subsequent transplants	6.5	5.9	7.8	11.5	8.5	6.4	7.0	7.0	4.4	4.7	4.2	5.5	4.0	4.6	2.9	4.1	2.3	3.1
All	4.2	5.6	5.2	5.1	3.9	4.8	4.6	3.9	4.0	2.9	2.5	2.4	2.7	2.7	2.6	2.2	2.5	2.0

Table F.20

## One-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<1	24.0	13.9	7.4	6.3	3.9	15.3	13.5	7.1	3.5	8.0	.	3.0	2.9	8.7	5.3	.	6.7	3.2
1-4	11.6	22.2	3.5	16.9	7.0	7.9	15.9	11.1	.	12.7	5.6	9.4	2.0	6.8	.	4.4	3.6	.
5-9	17.7	14.8	16.3	5.4	10.8	7.5	9.3	6.8	6.3	8.5	1.7	1.5	5.7	1.7	5.3	2.6	1.3	1.5
10-14	10.6	10.3	5.1	13.5	5.2	4.6	5.5	3.1	7.0	2.5	6.8	2.4	4.7	7.0	4.5	1.5	2.9	5.2
15-19	7.8	10.5	4.5	12.0	6.2	12.4	9.3	6.4	7.2	5.5	6.8	7.4	3.3	6.2	4.9	3.5	3.4	4.8
20-29	8.8	9.8	8.6	5.8	5.9	7.2	5.8	6.1	6.3	4.9	3.5	6.2	5.4	5.9	4.5	3.6	3.5	3.3
30-39	6.8	9.9	7.9	7.7	5.4	6.6	5.7	4.9	4.6	4.8	3.0	3.8	4.1	3.0	3.3	3.2	4.0	5.2
40-49	7.4	5.0	6.3	7.3	4.8	5.6	5.0	6.4	5.2	3.6	4.1	2.4	3.4	4.0	3.6	4.0	3.1	2.4
50-59	5.9	5.7	6.5	7.9	4.9	7.1	8.8	4.4	6.0	3.6	3.1	3.4	3.4	2.9	3.3	2.8	2.1	2.1
60-64	7.2	3.9	8.8	2.6	5.1	1.3	7.6	9.6	6.7	1.7	4.0	1.6	1.3	2.4	3.0	2.6	3.1	3.4
65-69	6.1	10.0	.	.	5.3	6.3	2.8	4.4	6.3	5.2	.	2.8	2.6	1.3	4.0	2.1	2.9	0.8
70-79	.	.	.	.	.	.	9.1	.	7.7	4.0	3.1	2.4	.	6.1	0.8	2.3	3.8	3.5
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	*	.
Male	8.3	10.6	7.6	7.6	5.3	6.3	6.6	5.4	5.4	3.4	3.3	3.2	2.6	3.4	3.0	2.8	2.7	2.3
Female	6.9	6.7	7.3	7.6	5.9	7.4	6.8	6.0	6.0	5.7	4.0	4.4	5.2	4.4	4.3	3.6	3.6	4.1
White	7.9	8.8	6.7	7.5	5.2	6.5	6.4	5.4	5.3	3.9	3.6	3.7	3.6	3.6	3.4	3.0	3.0	2.9
African American	9.2	12.2	13.8	9.5	9.3	9.1	7.4	8.0	7.2	6.8	3.5	4.3	4.9	5.0	5.2	4.2	3.9	4.5
Other race	2.3	4.4	4.2	4.5	0.0	4.3	8.5	2.0	4.8	4.0	3.3	2.9	1.6	4.1	2.2	2.8	2.8	1.6
†Hispanic	.	.	.	.	.	.	.	.	.	3.3	3.0	4.0	3.6	3.1	2.9	2.3	3.0	2.8
†Non-Hispanic	.	.	.	.	.	.	.	.	.	4.5	3.7	3.7	3.7	3.9	3.7	3.3	3.1	3.1
Diabetes	7.9	10.3	6.7	8.7	5.6	8.9	5.6	5.3	4.8	3.6	2.7	2.6	3.0	3.1	2.8	3.2	2.2	2.6
Hypertension	6.4	9.3	8.7	6.3	6.5	6.0	6.2	7.9	6.1	3.3	3.1	4.4	4.7	3.3	3.7	3.4	3.3	3.4
Glomerulonephritis	7.5	11.6	8.6	7.1	4.7	6.2	7.7	6.2	6.6	5.0	4.3	4.3	3.8	4.5	4.3	2.9	3.3	3.3
Other cause	8.5	5.8	6.4	7.7	6.0	6.4	6.5	4.5	5.1	4.6	3.7	3.7	3.7	3.8	3.4	3.2	3.4	2.9
First transplant	7.6	9.1	7.3	7.0	5.2	6.6	6.6	5.2	5.6	4.2	3.4	3.4	3.5	3.5	3.4	2.9	3.1	2.8
Subsequent transplants	9.4	9.3	10.3	16.0	10.6	8.3	7.5	11.2	5.5	5.7	5.5	6.9	6.5	6.7	5.0	5.7	3.3	5.3
All	7.8	9.1	7.5	7.6	5.6	6.8	6.7	5.7	5.6	4.4	3.6	3.7	3.7	3.8	3.6	3.2	3.1	3.0
<b>ADJUSTED</b>																		
0-19	12.4	13.9	7.6	12.9	8.0	10.5	10.9	6.8	7.2	7.1	6.5	5.7	4.7	7.1	5.4	3.3	3.8	4.6
20-44	7.5	9.3	8.2	7.0	5.5	6.4	5.7	5.4	5.3	4.5	3.5	4.2	4.2	4.1	3.5	3.6	3.5	3.9
45-64	7.0	5.3	7.0	7.6	4.8	6.5	7.1	5.9	5.6	3.2	3.5	2.9	3.3	3.2	3.5	3.0	2.6	2.4
65-74	6.1	11.9	.	.	4.6	6.4	4.5	3.6	5.5	5.2	0.8	2.3	1.9	2.9	2.9	1.8	3.0	1.6
75+	.	.	.	47.2	.	.	76.5	.	18.9	.	.	13.8	.	5.7	3.8	6.6	9.4	2.8
Male	8.1	9.8	7.1	7.4	5.1	6.1	6.4	5.2	5.3	3.3	3.4	3.3	2.8	3.7	3.3	3.1	3.0	2.6
Female	6.8	6.2	6.9	7.2	5.5	7.2	6.5	5.9	5.8	5.8	4.1	4.6	5.5	4.7	4.7	4.0	3.9	4.5
White	7.6	8.1	6.2	7.1	4.9	6.3	6.2	5.3	5.3	3.9	3.7	3.8	3.8	3.8	3.6	3.3	3.3	3.2
African American	8.6	10.6	11.8	8.0	8.4	8.4	6.9	7.4	6.8	6.6	3.4	4.2	4.9	5.1	5.3	4.2	3.9	4.8
Other race	2.3	4.3	3.9	4.7	.	4.3	8.3	2.0	4.8	4.1	3.3	2.9	1.7	4.6	2.4	3.0	3.1	1.9
Diabetes	9.0	11.6	7.8	9.8	6.4	10.1	6.5	6.0	5.6	4.3	3.4	3.1	3.7	3.8	3.6	4.1	2.8	3.4
Hypertension	6.0	8.3	8.2	6.2	6.3	5.9	6.2	7.8	6.0	3.3	3.1	4.5	4.8	3.5	4.0	3.7	3.6	3.7
Glomerulonephritis	7.1	10.7	7.9	6.7	4.4	6.0	7.2	5.9	6.3	5.0	4.2	4.3	3.9	4.7	4.5	3.1	3.4	3.6
Other cause	8.1	5.0	5.7	7.0	5.2	5.8	5.9	4.0	4.7	4.3	3.6	3.6	3.6	4.0	3.5	3.3	3.5	3.1
First transplant	7.5	8.4	6.8	6.7	4.9	6.5	6.3	5.0	5.5	4.2	3.5	3.6	3.6	3.8	3.7	3.2	3.4	3.1
Subsequent transplants	9.0	8.5	9.4	15.1	10.1	8.0	7.5	11.2	5.4	5.7	5.6	7.1	6.8	7.1	5.3	6.1	3.5	5.8
All	7.6	8.4	7.0	7.3	5.3	6.6	6.4	5.5	5.5	4.4	3.7	3.9	3.9	4.1	3.9	3.4	3.4	3.4

Table F.21

**Two-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants**

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<1	24.0	13.9	11.4	6.3	3.9	21.3	13.5	7.1	3.5	12.2	3.6	3.0	2.9	8.7	5.3	2.6	10.1
1-4	18.6	22.2	3.5	16.9	7.0	13.2	15.9	11.1	.	15.0	7.5	9.4	2.0	6.8	1.7	4.4	3.6
5-9	25.5	22.5	19.9	7.3	12.0	10.5	12.5	8.5	10.2	11.4	1.7	3.0	5.7	5.0	8.0	3.9	1.3
10-14	17.7	18.8	8.2	13.5	8.4	11.2	11.1	5.1	9.7	7.7	10.7	4.0	7.1	11.3	6.7	4.4	5.0
15-19	12.0	16.5	12.7	18.1	10.6	18.4	12.2	9.0	12.4	10.6	10.2	10.8	9.6	12.0	7.2	9.2	9.4
20-29	13.5	14.4	11.4	7.2	9.4	10.5	9.0	9.2	9.4	8.5	7.4	10.4	10.3	9.7	7.5	7.9	7.2
30-39	8.6	12.8	9.3	10.3	7.2	8.8	8.9	7.1	6.7	7.3	4.9	5.8	6.0	5.1	6.1	5.3	6.1
40-49	9.3	5.8	8.0	8.7	7.7	6.8	6.7	8.0	6.6	4.7	6.0	3.6	4.5	5.4	4.6	5.5	5.1
50-59	8.3	7.0	7.7	9.9	5.8	10.8	11.0	5.6	6.2	4.8	4.2	4.9	4.5	4.0	4.2	4.0	3.5
60-64	9.7	3.9	8.8	2.6	7.0	2.6	7.6	9.6	8.1	2.8	5.0	2.5	2.8	2.9	4.3	3.9	5.1
65-69	9.2	10.0	0.0	0.0	5.3	6.3	2.8	4.4	6.3	7.3	2.9	4.3	3.2	1.3	4.8	4.0	4.1
70-79	0.0	.	.	0.0	0.0	0.0	9.1	0.0	7.7	4.0	3.1	7.7	1.9	8.2	1.7	3.0	5.2
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.	*
Male	11.2	14.6	9.4	9.1	7.7	9.0	8.7	7.2	7.1	5.6	5.2	5.2	4.4	5.1	4.5	4.8	4.9
Female	10.3	9.4	10.5	10.3	8.6	10.4	10.0	8.4	8.2	8.2	6.6	6.4	7.8	6.6	6.3	5.8	5.7
White	10.6	12.0	8.9	8.9	7.4	9.0	8.7	7.1	6.9	5.7	5.5	5.5	5.3	5.2	4.7	4.6	4.9
African American	13.7	18.1	17.9	15.9	14.0	14.1	11.4	11.7	11.1	11.7	7.6	7.3	9.1	8.4	9.0	8.6	7.7
Other race	5.6	5.9	5.6	7.8	2.3	6.4	11.5	3.3	6.1	5.3	4.3	4.3	3.3	6.4	3.7	4.0	3.6
†Hispanic										5.2	5.7	6.0	5.2	5.0	4.4	4.1	4.4
†Non-Hispanic										6.9	5.8	5.7	5.9	5.8	5.4	5.3	5.3
Diabetes	10.1	12.5	8.9	10.8	7.8	10.3	7.4	7.1	5.6	5.4	4.1	3.8	4.7	4.8	3.8	4.6	4.5
Hypertension	8.5	14.9	10.2	10.0	9.5	10.7	7.8	9.2	7.4	6.7	6.4	7.1	8.4	5.5	5.9	5.8	4.5
Glomerulonephritis	9.6	15.9	10.9	8.8	8.1	9.7	11.7	8.9	9.7	7.6	6.6	7.0	5.7	7.1	6.9	5.4	6.0
Other cause	13.1	8.6	9.4	9.6	7.7	8.7	8.7	6.2	6.8	6.7	5.7	5.3	5.6	5.3	4.7	5.1	5.3
First transplant	10.7	12.6	9.8	8.9	7.5	9.4	9.2	7.2	7.5	6.6	5.6	5.3	5.5	5.4	5.1	4.9	5.0
Subsequent transplants	12.1	12.2	10.3	19.0	14.6	12.3	9.5	12.9	8.0	7.8	8.2	10.4	9.6	9.8	7.2	8.0	6.9
All	10.8	12.5	9.9	9.6	8.1	9.6	9.2	7.7	7.6	6.7	5.8	5.7	5.8	5.7	5.3	5.2	5.2
<b>ADJUSTED</b>																	
0-19	18.6	20.8	13.3	16.5	11.2	17.0	14.3	9.2	11.3	12.2	9.9	8.1	8.7	12.1	8.0	7.7	7.8
20-44	10.4	12.7	10.5	8.9	8.4	8.8	8.7	7.7	7.6	7.0	5.9	6.6	6.9	6.4	6.0	6.1	6.0
45-64	9.0	6.4	7.5	9.4	6.3	9.2	8.6	7.2	6.2	4.4	5.2	4.4	4.5	4.6	4.4	4.3	4.3
65-74	9.2	12.0	.	.	4.6	6.4	4.5	3.6	5.5	7.1	3.1	4.7	2.4	3.6	3.8	3.4	4.3
75+	.	.	.	47.8	.	.	77.3	.	20.3	.	.	13.7	11.1	5.8	3.9	6.5	9.4
Male	10.8	13.5	8.8	8.8	7.3	8.8	8.5	6.8	7.0	5.5	5.3	5.4	4.6	5.5	4.9	5.2	5.4
Female	10.0	8.7	9.9	9.8	8.0	10.1	9.5	8.1	8.0	8.3	6.8	6.6	8.1	7.1	6.8	6.3	6.1
White	10.3	11.0	8.3	8.4	6.9	8.7	8.4	6.9	6.8	5.7	5.7	5.7	5.6	5.6	5.0	5.0	5.3
African American	12.8	15.7	15.4	13.4	12.5	13.1	10.5	10.9	10.4	11.3	7.3	7.1	9.1	8.5	9.2	8.8	7.8
Other race	5.4	5.7	5.2	8.2	2.1	6.5	11.1	3.3	6.0	5.4	4.3	4.4	3.4	7.1	3.9	4.3	3.9
Diabetes	11.4	14.0	10.2	12.1	8.8	11.7	8.5	8.1	6.5	6.4	5.0	4.6	5.7	6.0	4.8	5.8	5.7
Hypertension	7.9	13.4	9.6	9.9	9.1	10.5	7.8	9.1	7.3	6.8	6.5	7.3	8.6	5.9	6.4	6.3	4.9
Glomerulonephritis	9.1	14.6	10.0	8.2	7.5	9.4	10.9	8.4	9.3	7.5	6.6	7.1	5.9	7.5	7.1	5.7	6.3
Other cause	12.6	7.4	8.3	8.7	6.7	7.9	7.9	5.6	6.3	6.1	5.6	5.2	5.5	5.5	4.8	5.2	5.5
First transplant	10.5	11.7	9.3	8.6	7.1	9.1	8.9	6.9	7.4	6.6	5.7	5.5	5.8	5.8	5.5	5.3	5.5
Subsequent transplants	11.6	11.3	9.4	18.0	13.9	11.9	9.4	12.9	7.9	7.7	8.3	10.7	10.1	10.3	7.6	8.5	7.3
All	10.5	11.7	9.3	9.2	7.6	9.3	8.9	7.4	7.4	6.7	5.9	6.0	6.1	6.2	5.7	5.6	5.7



Table F.22

## Three-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<1	30.3	13.9	11.4	6.3	7.9	27.4	13.5	7.1	3.5	12.2	3.6	3.0	5.9	8.7	8.1	2.6
1-4	23.3	26.1	3.5	24.5	7.0	13.2	15.9	14.8	3.0	17.2	7.5	9.4	2.0	6.8	3.5	6.7
5-9	29.4	27.7	23.6	9.1	13.2	13.4	14.1	8.5	10.2	12.8	1.7	6.0	5.7	5.0	9.4	5.1
10-14	21.3	23.1	10.2	20.6	14.8	16.0	16.8	7.1	14.1	11.9	12.7	7.1	14.2	13.0	10.6	7.4
15-19	18.7	20.5	17.2	25.7	15.7	22.9	21.0	15.0	16.5	14.1	14.2	17.1	17.8	16.3	12.1	15.4
20-29	17.1	17.3	15.7	11.1	12.2	13.5	13.4	12.0	13.5	13.2	10.5	14.7	13.8	13.8	12.2	11.2
30-39	10.5	15.3	11.8	11.6	9.9	10.5	11.3	9.9	8.3	10.4	7.4	8.5	7.8	6.9	8.6	7.9
40-49	11.0	9.5	9.0	9.8	9.3	9.2	8.3	9.9	8.5	7.4	8.1	5.3	6.3	7.7	6.3	7.1
50-59	10.2	9.8	10.5	10.5	7.9	11.1	12.4	7.2	9.5	6.4	6.2	6.2	5.8	5.7	5.6	4.9
60-64	10.9	8.0	13.8	2.6	9.0	2.6	8.7	13.0	8.9	2.8	6.4	3.3	3.9	4.6	5.7	6.2
65-69	9.2	10.0	0.0	5.6	5.3	8.7	2.8	4.4	8.0	7.3	2.9	6.5	4.6	2.8	5.2	5.3
70-79	.	.	.	.	.	.	9.1	.	7.7	4.0	6.6	7.7	1.9	8.2	1.7	3.0
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*	.	.
Male	14.0	17.5	11.6	11.9	10.0	11.4	11.1	10.0	9.5	8.3	7.4	7.4	6.5	7.2	6.8	6.8
Female	12.7	12.8	14.4	12.7	11.7	12.4	13.6	10.5	10.8	11.1	8.9	9.3	10.3	8.9	8.6	7.8
White	13.4	14.5	11.5	11.5	9.8	10.7	11.1	9.3	8.8	8.1	7.5	7.4	7.2	7.3	6.6	6.3
African American	16.2	25.9	23.0	19.7	18.4	19.5	17.4	15.7	16.3	16.5	11.6	13.4	13.6	11.2	13.5	12.6
Other race	7.2	7.4	7.0	10.1	4.6	10.8	13.5	4.7	7.9	6.7	6.0	6.3	5.4	8.0	4.8	5.0
†Hispanic										9.0	7.7	8.2	7.3	7.2	6.6	6.0
†Non-Hispanic										9.5	8.1	8.2	8.2	8.0	7.6	7.4
Diabetes	12.6	14.8	10.5	12.4	10.0	11.8	10.0	8.7	7.1	7.4	5.6	5.6	6.0	7.2	5.7	6.7
Hypertension	10.7	20.1	14.1	13.3	12.8	14.3	10.0	12.7	11.4	9.8	8.9	11.8	11.2	8.0	7.7	8.2
Glomerulonephritis	12.7	19.4	14.3	11.3	11.0	12.1	15.3	11.9	13.0	10.8	9.2	9.9	9.0	10.1	10.0	8.0
Other cause	15.6	11.2	12.1	12.9	10.1	10.7	11.5	8.4	8.5	9.5	8.0	7.0	7.4	6.7	6.7	6.5
First transplant	13.3	15.7	12.7	11.8	10.0	11.8	12.2	9.8	10.1	9.1	7.7	7.8	7.6	7.4	7.1	6.7
Subsequent transplants	14.8	15.1	13.0	19.8	19.8	12.8	11.9	15.0	9.8	13.4	12.3	12.3	13.1	13.8	11.2	11.5
All	13.5	15.7	12.7	12.3	10.7	11.8	12.1	10.2	10.0	9.5	8.0	8.2	8.1	7.9	7.5	7.2
<b>ADJUSTED</b>																
0-19	24.4	25.3	16.6	23.2	15.8	21.5	20.2	13.5	14.9	15.8	12.5	12.8	15.4	15.1	12.5	12.3
20-44	12.8	15.7	13.6	11.3	10.9	11.4	11.7	10.1	10.1	10.6	8.5	9.7	9.2	8.9	9.0	8.8
45-64	11.0	9.3	9.9	10.2	8.2	9.5	10.1	9.4	8.2	6.0	7.1	5.6	5.9	6.5	5.9	5.4
65-74	9.6	12.0	.	7.1	4.6	9.0	4.6	3.6	6.6	7.2	4.0	6.7	3.5	4.7	4.1	4.3
75+	.	.	.	43.4	.	.	72.5	.	24.2	.	.	9.6	8.4	4.6	3.5	4.2
Male	13.5	16.2	10.9	11.5	9.5	11.1	10.8	9.5	9.3	8.1	7.6	7.7	6.8	7.8	7.3	7.4
Female	12.4	11.9	13.6	12.1	10.9	12.1	12.9	10.2	10.5	11.3	9.1	9.6	10.7	9.6	9.2	8.5
White	12.9	13.3	10.7	10.8	9.1	10.3	10.7	9.0	8.7	8.2	7.7	7.7	7.5	7.9	7.1	6.9
African American	15.0	22.6	19.7	16.5	16.4	18.0	16.0	14.6	15.1	15.9	11.2	12.9	13.6	11.3	13.9	12.7
Other race	7.0	7.2	6.5	10.6	4.3	10.9	13.1	4.7	7.8	6.7	6.0	6.4	5.6	8.9	5.1	5.3
Diabetes	14.2	16.5	12.0	14.0	11.3	13.4	11.3	9.8	8.1	8.8	6.8	6.8	7.3	9.0	7.1	8.3
Hypertension	9.9	18.1	13.4	13.2	12.3	14.0	10.0	12.5	11.3	9.9	9.1	12.1	11.4	8.5	8.2	8.8
Glomerulonephritis	12.1	17.9	13.1	10.6	10.3	11.8	14.3	11.3	12.5	10.7	9.2	10.1	9.3	10.5	10.4	8.5
Other cause	14.9	9.7	10.6	11.7	8.8	9.8	10.4	7.6	7.8	8.7	7.7	6.8	7.2	6.9	6.8	6.6
First transplant	13.0	14.7	12.0	11.2	9.4	11.5	11.7	9.3	9.9	9.1	7.9	8.2	8.0	8.0	7.8	7.4
Subsequent transplants	14.2	14.1	11.9	18.8	18.7	12.4	11.9	15.1	9.8	13.3	12.4	12.7	13.7	14.5	11.8	12.2
All	13.1	14.6	12.0	11.8	10.1	11.6	11.7	9.8	9.8	9.5	8.2	8.5	8.5	8.6	8.1	7.8





Table F.23

**Five-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants***by age, gender, race/ethnicity, primary diagnosis, & transplant number*

<b>UNADJUSTED</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<1	36.7	19.7	11.4	6.3	7.9	27.4	13.5	14.9	10.7	16.4	7.3	3.0	8.9	8.7
1-4	25.8	30.2	3.5	24.5	11.9	18.6	15.9	18.5	9.1	17.2	7.5	12.5	4.1	6.8
5-9	39.2	33.2	29.0	12.9	20.5	22.4	15.7	10.3	15.4	14.3	8.5	7.5	11.5	11.9
10-14	29.7	29.5	19.6	26.3	22.3	27.4	26.1	12.3	20.3	19.7	21.6	9.5	20.6	20.0
15-19	30.3	27.2	30.0	36.7	22.0	29.9	37.5	27.4	25.9	24.4	27.3	29.2	24.2	29.4
20-29	23.3	23.6	23.1	18.1	20.1	21.7	20.3	21.4	21.0	21.5	18.3	22.6	21.2	20.0
30-39	14.1	20.5	15.7	17.8	15.4	15.9	16.2	17.1	13.3	15.4	11.6	13.1	12.8	12.3
40-49	14.5	13.8	11.0	13.6	15.5	13.8	13.7	15.6	13.7	13.6	12.9	9.0	11.0	11.1
50-59	11.9	15.1	13.6	16.5	13.9	15.4	15.5	9.9	13.5	11.1	10.2	9.6	7.8	8.6
60-64	13.6	12.9	19.4	9.3	13.4	4.0	11.1	20.2	13.8	8.0	10.9	6.6	7.2	8.8
65-69	12.8	10.0	.	11.5	5.3	8.7	12.6	4.4	9.6	9.7	6.1	10.0	8.6	6.9
70-79	.	.	.	.	.	.	9.1	.	11.7	9.3	10.7	10.4	3.9	16.9
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	*
Male	17.8	23.0	17.1	17.8	16.5	17.1	16.3	17.0	14.7	14.1	13.1	11.4	11.1	11.8
Female	18.6	18.4	19.5	19.1	17.7	18.6	20.4	16.9	16.9	17.4	14.2	15.0	15.0	13.8
White	17.6	19.4	16.3	17.0	15.0	16.2	15.9	15.9	14.1	13.7	12.2	11.8	11.1	11.6
African American	23.7	35.6	32.8	31.4	31.8	28.0	29.6	24.6	24.2	25.5	21.8	19.9	22.7	19.0
Other race	9.6	14.1	11.3	12.4	8.2	16.5	17.6	7.6	11.7	10.9	10.6	11.3	7.9	11.0
†Hispanic										14.9	12.3	13.4	12.4	11.4
†Non-Hispanic										15.6	13.7	12.9	12.8	12.8
Diabetes	16.2	21.3	16.4	17.8	14.5	16.2	15.7	13.2	11.5	13.1	9.7	9.7	10.5	12.0
Hypertension	15.1	28.0	20.9	20.8	22.9	21.8	16.0	21.8	20.6	17.4	16.3	16.8	18.1	14.2
Glomerulonephritis	18.3	25.1	20.3	17.6	19.2	18.3	22.1	20.3	19.5	17.4	16.2	16.1	14.7	15.6
Other cause	19.9	15.5	16.1	18.8	14.5	16.5	16.6	13.9	12.6	14.5	12.2	10.7	10.5	10.2
First transplant	18.1	21.1	18.0	17.6	16.3	17.7	17.8	16.3	15.5	14.9	13.2	12.5	12.2	12.1
Subsequent transplants	18.4	22.9	19.4	28.5	25.7	18.0	20.5	24.2	17.6	22.2	18.2	17.7	18.2	18.7
All	18.1	21.2	18.1	18.4	17.0	17.8	18.0	17.0	15.6	15.5	13.6	12.9	12.7	12.6
<b>ADJUSTED</b>														
0-19	34.4	32.3	26.4	31.1	23.1	30.9	30.7	22.8	23.4	23.8	23.2	19.8	22.2	25.3
20-44	17.4	21.3	18.9	17.5	17.8	18.0	17.5	18.0	16.1	16.9	14.4	15.3	15.1	14.2
45-64	13.1	14.4	12.4	15.9	13.3	13.0	13.9	12.9	12.4	11.4	11.0	8.8	8.9	9.6
65-74	12.7	11.3	.	14.3	4.6	9.0	12.2	3.5	8.7	9.9	7.5	9.2	6.2	9.9
75+	.	.	.	37.4	.	.	70.2	.	26.9	.	.	21.7	20.2	8.8
Male	17.1	21.4	16.1	17.2	15.7	16.7	15.9	16.2	14.4	13.8	13.3	11.8	11.7	12.7
Female	18.1	17.2	18.3	18.2	16.6	18.1	19.4	16.4	16.5	17.7	14.6	15.4	15.6	14.8
White	17.0	17.8	15.2	16.0	14.1	15.6	15.3	15.4	13.9	13.7	12.5	12.2	11.6	12.5
African American	21.9	31.1	28.2	26.8	28.7	26.0	27.4	22.8	22.5	24.4	21.0	19.2	22.7	19.1
Other race	9.3	13.5	10.5	12.9	7.4	16.3	16.9	7.5	11.5	10.8	10.4	11.4	8.2	12.1
Diabetes	18.2	23.6	18.6	19.9	16.3	18.3	17.7	14.8	13.2	15.5	11.7	11.7	12.7	14.7
Hypertension	14.1	25.4	19.8	20.6	22.0	21.5	15.9	21.4	20.3	17.6	16.7	17.3	18.4	15.0
Glomerulonephritis	17.5	23.2	18.7	16.6	18.0	17.9	20.7	19.4	18.8	17.2	16.2	16.3	15.3	16.2
Other cause	19.0	13.3	14.1	16.9	12.6	15.0	15.0	12.4	11.5	13.3	11.8	10.4	10.3	10.5
First transplant	17.6	19.7	16.9	16.9	15.4	17.3	17.1	15.6	15.1	14.9	13.5	13.0	12.9	13.1
Subsequent transplants	17.6	21.4	18.0	27.4	24.4	17.5	20.5	24.2	17.6	22.1	18.5	18.5	19.1	19.6
All	17.6	19.8	17.1	17.6	16.1	17.3	17.4	16.3	15.3	15.5	13.9	13.4	13.4	13.6



Table F.24

## Ten-year probability of graft failure necessitating dialysis or retransplantation: all living donor transplants

by age, gender, race/ethnicity, primary diagnosis, & transplant number

UNADJUSTED	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
<1	.	25.0	37.5	50.0	42.9	50.0	19.8	57.8	25.4	24.1	13.0	23.9	39.5	16.2	30.4	21.9
1-4	80.0	44.4	84.4	47.1	45.3	28.6	39.7	38.7	42.5	10.6	43.4	31.9	24.4	24.4	29.6	37.2
5-9	48.1	49.7	66.5	67.0	47.7	47.8	47.0	62.3	53.0	47.2	35.8	34.9	42.4	39.0	31.3	30.1
10-14	55.5	64.1	58.7	53.4	55.1	60.8	53.6	49.1	56.2	42.3	39.4	43.1	44.6	44.5	33.1	48.7
15-19	48.7	41.9	50.2	49.9	45.4	56.7	46.1	44.7	48.3	43.6	60.2	40.0	50.7	48.9	52.9	43.5
20-29	34.1	35.6	39.6	36.9	36.3	35.7	39.4	38.2	35.7	37.7	35.8	35.4	39.4	36.7	37.9	37.9
30-39	23.5	33.7	30.4	30.0	32.2	35.5	29.3	31.1	32.5	30.0	29.9	27.0	32.2	29.7	29.7	28.7
40-49	31.9	31.1	24.4	23.0	29.9	23.1	23.2	28.4	23.4	22.9	26.6	26.3	23.1	27.9	30.4	27.1
50-59	28.1	30.4	19.2	16.0	21.0	19.0	16.6	21.3	26.3	25.0	26.4	27.7	23.3	26.3	21.5	26.2
60-64	.	25.0	.	.	19.9	8.9	10.0	31.5	19.1	24.2	25.6	31.0	15.6	26.2	35.7	27.7
65-69	.	.	.	20.0	25.0	33.2	9.7	25.7	10.0	.	18.8	11.6	18.2	12.6	11.3	23.6
70-79	.	.	.	.	.	.	11.1	20.0	.	.	.	.	.	22.1	.	11.7
80+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Male	35.0	36.1	35.7	33.6	34.4	32.7	29.0	32.6	35.9	30.1	32.3	28.7	31.2	28.6	32.2	29.1
Female	31.9	36.3	35.4	32.4	34.4	33.7	31.3	33.5	32.6	34.9	34.7	33.8	33.4	37.0	32.3	33.8
White	32.8	34.7	34.0	31.6	32.8	30.8	27.8	31.2	31.3	29.9	31.2	28.1	29.7	29.3	30.7	29.2
African American	44.8	47.5	46.9	44.6	48.5	49.0	43.2	45.6	59.2	50.5	53.1	51.0	49.3	47.5	43.6	41.8
Other race	15.8	36.0	25.7	23.3	23.7	24.8	27.0	23.8	28.4	26.1	25.5	21.9	28.0	32.5	17.3	25.9
†Hispanic																
†Non-Hispanic																
Diabetes	25.7	35.8	30.9	32.0	35.1	31.5	31.1	34.9	32.7	30.4	33.0	30.9	31.2	31.7	28.9	28.1
Hypertension	30.2	32.2	35.8	36.7	38.8	37.5	31.8	36.5	44.2	40.4	37.0	38.8	39.4	30.7	40.0	37.6
Glomerulonephritis	38.2	39.9	39.0	34.0	35.7	35.5	33.1	32.7	40.0	35.7	34.2	31.7	34.2	37.5	34.3	35.2
Other cause	32.9	34.0	33.9	31.4	31.4	30.5	25.9	31.1	27.8	27.0	31.9	27.7	28.3	28.2	28.9	26.7
First transplant	34.0	36.6	35.2	33.1	35.0	32.9	29.4	32.3	34.5	31.7	32.5	30.3	31.6	32.0	31.4	30.6
Subsequent transplants	29.3	28.0	41.9	33.7	27.3	35.3	34.0	39.4	35.9	37.5	45.3	37.3	39.4	32.5	41.7	36.9
All	33.7	36.2	35.6	33.1	34.4	33.1	29.9	32.9	34.6	32.1	33.4	30.9	32.2	32.1	32.2	31.1
<b>ADJUSTED</b>																
0-19	56.6	51.5	60.0	57.4	52.7	58.1	50.3	51.9	54.3	43.7	51.8	42.7	49.5	45.3	46.7	45.0
20-44	31.7	36.0	34.3	32.8	34.7	33.9	31.8	32.9	33.0	33.0	31.9	30.8	33.7	32.6	32.0	31.2
45-64	29.3	31.7	20.2	16.7	22.8	19.4	18.8	25.3	26.3	25.0	29.7	26.7	22.2	25.6	26.9	26.0
65-74	.	.	.	16.2	23.0	28.2	11.4	26.5	11.4	.	23.4	10.5	18.0	15.1	8.2	18.1
75+	.	.	.	.	.	.	.	.	.	.	87.6	.	.	54.8	.	46.8
Male	33.4	34.0	33.3	31.5	32.6	31.8	28.2	31.3	33.3	28.3	30.8	27.2	30.4	27.6	30.5	28.3
Female	30.6	34.8	33.8	31.2	32.8	32.6	31.2	32.9	31.2	33.1	33.5	32.0	32.7	35.4	31.4	32.9
White	30.6	32.4	32.0	29.6	31.0	29.7	27.1	30.3	28.9	27.7	29.4	26.2	28.5	28.1	29.6	28.6
African American	41.1	42.9	42.7	42.1	42.7	45.8	40.5	42.4	53.1	44.0	46.2	46.6	46.5	44.1	40.6	39.1
Other race	18.6	36.1	26.5	23.4	22.5	23.8	27.4	23.0	27.7	24.1	27.2	19.8	27.9	31.3	16.9	25.9
Diabetes	28.7	38.6	33.5	34.0	38.1	34.7	34.2	38.2	35.9	33.9	36.1	34.1	34.3	34.7	31.9	31.1
Hypertension	27.8	28.9	31.6	34.4	36.2	34.9	29.6	33.8	40.5	38.1	36.8	36.8	38.4	30.1	38.5	36.8
Glomerulonephritis	35.9	37.8	36.7	32.4	33.5	34.2	32.3	31.2	37.4	33.4	32.3	29.9	33.3	35.4	32.9	33.9
Other cause	29.0	30.2	30.5	28.2	28.5	28.6	24.9	29.6	23.8	23.3	28.5	23.8	25.5	25.2	25.6	24.1
First transplant	32.4	34.7	33.2	31.4	33.5	32.1	29.3	31.6	32.5	30.0	31.1	28.9	30.9	30.8	30.1	29.8
Subsequent transplants	29.5	25.6	38.4	31.7	25.9	33.6	32.1	36.8	33.4	34.4	42.6	34.6	37.9	31.7	40.5	36.0
All	32.3	34.4	33.6	31.5	32.8	32.2	29.5	32.0	32.6	30.3	32.0	29.3	31.4	30.9	31.0	30.3



Table F.25

**Risk factors for graft failure: deceased donor transplants, 2000–2005**

	Percent of patients	All-cause graft failure		
		Haz. ratio	95% CI	P-value
Transplant era (reference: 2000-2002, 46.9% of patients)				
2003-2005	53.1	0.88	(0.83-0.92)	<.0001
Recipient age (years) (reference: 18-34, 12.3% of patients)				
0-17	4.0	1.30	(1.14-1.50)	0.0002
35-49	28.6	0.86	(0.80-0.92)	<.0001
50-64	40.8	1.00	(0.93-1.08)	0.9788
65+	14.3	1.40	(1.29-1.52)	<.0001
Recipient gender (reference: female, 39.6% of patients)				
Male	60.4	1.04	(1.00-1.09)	0.0750
Recipient race (reference: white, 60.8% of patients)				
African American	30.8	1.12	(1.06-1.17)	<.0001
Asian	5.8	0.74	(0.67-0.82)	<.0001
Other/Unknown	2.6	0.86	(0.74-1.00)	0.0467
Recipient ethnicity (reference: non-Hispanic, 85.9% of patients)				
Hispanic	14.1	0.77	(0.71-0.82)	<.0001
Primary cause of ESRD (reference: glomerulonephritis, 23.1% of patients)				
Diabetes	25.8	1.30	(1.23-1.38)	<.0001
Hypertension	21.5	1.14	(1.08-1.22)	<.0001
Cystic kidney disease	8.8	0.71	(0.64-0.78)	<.0001
Other	20.7	1.10	(1.03-1.18)	0.0031
Pre-transplant hepatitis B & C serology (reference: negative/unknown)				
Hep. B Core Ab+	8.7	0.93	(0.86-1.00)	0.0516
Hep. B Surface Ag+	2.2	1.10	(0.95-1.26)	0.1976
Hep. C Ab+	6.4	1.45	(1.34-1.56)	<.0001
Education level (reference: <college, 65.6% of patients)				
College+	14.1	0.94	(0.88-1.01)	0.0705
Unknown	20.3	1.03	(0.98-1.08)	0.3083
Employment status (reference: unable to work, 25.2% of patients)				
Able to work	40.3	0.80	(0.76-0.84)	<.0001
Unknown	34.5	0.92	(0.86-0.97)	0.0025
Primary payor (reference: non-Medicare, 41.3% of patients)				
Medicare	58.7	1.07	(1.02-1.12)	0.0048
Prior dialysis time (years) (reference: <1, 10.4% of patients)				
None (preemptive)	6.0	0.86	(0.76-0.98)	0.0194
1-<2	17.3	1.08	(0.99-1.17)	0.0728
2-<3	17.4	1.14	(1.05-1.24)	0.0021
3+	47.7	1.25	(1.16-1.35)	<.0001
Unknown	1.1	1.24	(1.02-1.50)	0.0315
Donor age (years) (reference: 18-34, 28.7% of patients)				
0-17	14.5	1.12	(1.03-1.20)	0.0049
35-49	28.9	1.18	(1.11-1.26)	<.0001
50-64	23.8	1.37	(1.27-1.47)	<.0001
65+	4.1	1.68	(1.49-1.90)	<.0001
Unknown	0.0	2.20	(0.54-8.96)	0.2733
Donor gender (reference: female, 41.0% of patients)				
Male	59.0	0.93	(0.89-0.97)	0.0010
Donor race (reference: white, 80.9% of patients)				
African American	11.7	1.19	(1.12-1.27)	<.0001
Asian	1.8	1.08	(0.92-1.26)	0.3365
Other/Unknown	5.6	1.09	(0.97-1.23)	0.1313
Donor cause of death (reference: non-trauma, 50.5% of patients)				
Trauma	49.5	0.90	(0.86-0.95)	<.0001



Table F.25 (continued)

## Risk factors for graft failure: deceased donor transplants, 2000–2005

	Percent of patients	All-cause graft failure		
		Haz. ratio	95% CI	P-value
HLA mismatches (reference: 3, 15.1% of patients)				
0	12.7	0.87	(0.80-0.95)	0.0014
1	2.2	0.97	(0.84-1.11)	0.6399
2	6.0	0.96	(0.87-1.05)	0.3475
4	23.8	1.02	(0.96-1.09)	0.4875
5	25.2	1.10	(1.03-1.18)	0.0040
6	12.6	1.22	(1.13-1.32)	<.0001
Unknown	2.4	0.96	(0.84-1.10)	0.5768
Cold ischemia time (hours) (reference: 0-12, 22.3% of patients)				
13-24	45.8	1.03	(0.97-1.09)	0.3092
25-36	15.2	1.08	(1.01-1.15)	0.0304
37+	2.3	1.20	(1.06-1.36)	0.0034
Unknown	14.5	1.02	(0.95-1.09)	0.6808
Donor documented history of:				
Diabetes	4.6	1.20	(1.11-1.31)	<.0001
Hypertension	21.5	1.14	(1.07-1.20)	<.0001
Expanded Criteria Donor (reference: non-ECD, 82.7% of patients)				
ECD	17.3	1.12	(1.03-1.22)	0.0104
Body surface area matching (reference: R≤D, 86.1% of patients)				
R 1.6-2.2 m <sup>2</sup> , D<1.6m <sup>2</sup>	10.2	1.06	(0.99-1.14)	0.1214
R>2.2m <sup>2</sup> , D<1.6m <sup>2</sup>	1.5	1.20	(1.03-1.41)	0.0222
Unknown	2.1	1.04	(0.78-1.40)	0.7822
Recipient body mass index (BMI) (reference: 18.5-24.9 kg/m <sup>2</sup> , 34.4% of patients)				
<18.5 kg/m <sup>2</sup>	4.2	1.00	(0.89-1.13)	0.9537
25.0-29.9 kg/m <sup>2</sup>	32.8	1.01	(0.96-1.06)	0.7545
30.0-34.9 kg/m <sup>2</sup>	18.5	1.08	(1.02-1.15)	0.0099
≥35.0 kg/m <sup>2</sup>	8.4	1.19	(1.10-1.28)	<.0001
Unknown	1.7	1.04	(0.75-1.43)	0.8291
PRA (reference: ≤50%, 95.7% of patients)				
>50%	4.3	1.22	(1.10-1.35)	0.0002
CMV serology (reference: donor-/recipient-, 15.3% of patients)				
Donor-/Recipient+	22.4	1.07	(1.00-1.15)	0.0654
Donor+/Recipient+	39.1	1.09	(1.02-1.16)	0.0089
Donor+/Recipient-	23.2	1.08	(1.01-1.16)	0.0247
Baseline Immunosuppressive Regimen (reference: Tacrolimus & MMF, 48.4% of patients)				
Cyclosporine Microemulsion & MMF	21.2	1.15	(1.09-1.22)	<.0001
Tacrolimus	5.5	1.40	(1.27-1.53)	<.0001
None listed	4.2	5.85	(5.45-6.27)	<.0001
Tacrolimus & Rapamycin	4.7	1.46	(1.33-1.60)	<.0001
Other	16.0	1.55	(1.46-1.64)	<.0001



Table F.25 (continued)

**Risk factors for graft failure: deceased donor transplants, 2000–2005**

	Return to dialysis / preemptive retransplant			Death with function		
	Haz. ratio	95% CI	P-value	Haz. ratio	95% CI	P-value
Transplant era (reference: 2000-2002, 46.9% of patients) 2003-2005	0.89	(0.84-0.96)	0.0015	0.86	(0.79-0.92)	<.0001
Recipient age (years) (reference: 18-34, 12.3% of patients)						
0-17	1.44	(1.24-1.68)	<.0001	1.08	(0.78-1.52)	0.6408
35-49	0.68	(0.63-0.74)	<.0001	1.85	(1.56-2.18)	<.0001
50-64	0.54	(0.50-0.59)	<.0001	3.46	(2.95-4.06)	<.0001
65+	0.55	(0.49-0.62)	<.0001	6.02	(5.09-7.12)	<.0001
Recipient gender (reference: female, 39.6% of patients)						
Male	0.96	(0.90-1.01)	0.1383	1.14	(1.07-1.22)	<.0001
Recipient race (reference: white, 60.8% of patients)						
African American	1.38	(1.29-1.48)	<.0001	0.84	(0.78-0.91)	<.0001
Asian	0.74	(0.64-0.86)	<.0001	0.74	(0.64-0.86)	<.0001
Other/Unknown	0.88	(0.71-1.09)	0.2523	0.84	(0.68-1.03)	0.0892
Recipient ethnicity (reference: non-Hispanic, 85.9% of patients)						
Hispanic	0.83	(0.75-0.91)	0.0001	0.70	(0.63-0.77)	<.0001
Primary cause of ESRD (reference: glomerulonephritis, 23.1% of pat)						
Diabetes	0.88	(0.81-0.96)	0.0025	2.08	(1.89-2.28)	<.0001
Hypertension	0.99	(0.91-1.07)	0.7083	1.48	(1.33-1.64)	<.0001
Cystic kidney disease	0.71	(0.62-0.80)	<.0001	0.78	(0.67-0.91)	0.0013
Other	0.93	(0.85-1.01)	0.0712	1.50	(1.35-1.67)	<.0001
Pre-transplant hepatitis B & C serology (reference: negative/unkno)						
Hep. B Core Ab+	0.98	(0.89-1.08)	0.6327	0.87	(0.78-0.98)	0.0166
Hep. B Surface Ag+	1.01	(0.83-1.23)	0.9402	1.20	(0.98-1.46)	0.0743
Hep. C Ab+	1.33	(1.20-1.48)	<.0001	1.58	(1.42-1.77)	<.0001
Education level (reference: <college, 65.6% of patients)						
College+	0.95	(0.87-1.05)	0.3170	0.92	(0.84-1.01)	0.0821
Unknown	1.04	(0.97-1.11)	0.3131	1.01	(0.94-1.09)	0.8165
Employment status (reference: unable to work, 25.2% of patients)						
Able to work	0.87	(0.81-0.93)	<.0001	0.74	(0.69-0.79)	<.0001
Unknown	0.90	(0.83-0.97)	0.0062	0.94	(0.86-1.02)	0.1426
Primary payor (reference: non-Medicare, 41.3% of patients)						
Medicare	1.24	(1.16-1.32)	<.0001	0.91	(0.85-0.97)	0.0047
Prior dialysis time (years) (reference: <1, 10.4% of patients)						
None (preemptive)	0.68	(0.57-0.83)	<.0001	1.05	(0.89-1.25)	0.5511
1-<2	1.07	(0.96-1.20)	0.2243	1.08	(0.96-1.23)	0.2006
2-<3	1.11	(0.99-1.25)	0.0654	1.17	(1.03-1.32)	0.0148
3+	1.09	(0.98-1.21)	0.1166	1.46	(1.30-1.64)	<.0001
Unknown	0.69	(0.49-0.98)	0.0388	1.79	(1.41-2.27)	<.0001
Donor age (years) (reference: 18-34, 28.7% of patients)						
0-17	1.21	(1.09-1.34)	0.0003	1.02	(0.91-1.15)	0.7053
35-49	1.26	(1.16-1.37)	<.0001	1.11	(1.02-1.22)	0.0188
50-64	1.55	(1.39-1.72)	<.0001	1.20	(1.07-1.34)	0.0016
65+	2.00	(1.69-2.36)	<.0001	1.46	(1.23-1.74)	<.0001
Unknown	5.11	(1.23-21.27)	0.0250	.	.	.
Donor gender (reference: female, 41.0% of patients)						
Male	0.89	(0.84-0.94)	<.0001	0.98	(0.92-1.04)	0.5075
Donor race (reference: white, 80.9% of patients)						
African American	1.30	(1.20-1.40)	<.0001	1.06	(0.96-1.17)	0.2240
Asian	1.12	(0.90-1.38)	0.3103	1.05	(0.83-1.32)	0.6851
Other/Unknown	1.11	(0.95-1.30)	0.1891	1.07	(0.91-1.27)	0.4222
Donor cause of death (reference: non-trauma, 50.5% of patients)						
Trauma	0.87	(0.81-0.93)	<.0001	0.94	(0.87-1.01)	0.0907



Table F.25 (continued)

## Risk factors for graft failure: deceased donor transplants, 2000–2005

	Return to dialysis / preemptive retransplant			Death with function		
	Haz. ratio	95% CI	P-value	Haz. ratio	95% CI	P-value
HLA mismatches (reference: 3, 15.1% of patients)						
0	0.83	(0.73-0.93)	0.0017	0.91	(0.81-1.03)	0.1300
1	0.82	(0.67-1.02)	0.0742	1.11	(0.92-1.33)	0.2900
2	0.97	(0.85-1.11)	0.6850	0.93	(0.82-1.07)	0.3086
4	1.02	(0.93-1.12)	0.6306	1.03	(0.94-1.13)	0.5450
5	1.17	(1.07-1.28)	0.0005	1.03	(0.93-1.13)	0.5849
6	1.29	(1.17-1.43)	<.0001	1.15	(1.03-1.29)	0.0111
Unknown	0.85	(0.70-1.03)	0.0986	1.10	(0.91-1.32)	0.3214
Cold ischemia time (hours) (reference: 0-12, 22.3% of patients)						
13-24	1.11	(1.03-1.20)	0.0069	0.94	(0.87-1.02)	0.1561
25-36	1.19	(1.08-1.30)	0.0003	0.96	(0.87-1.06)	0.4615
37+	1.42	(1.21-1.67)	<.0001	0.98	(0.81-1.20)	0.8609
Unknown	1.02	(0.93-1.12)	0.6849	1.01	(0.91-1.11)	0.9114
Donor documented history of:						
Diabetes	1.17	(1.04-1.32)	0.0092	1.26	(1.11-1.43)	0.0003
Hypertension	1.17	(1.08-1.26)	0.0001	1.10	(1.01-1.19)	0.0326
Expanded Criteria Donor (reference: non-ECD, 82.7% of patients)						
ECD	1.21	(1.08-1.36)	0.0015	1.06	(0.93-1.19)	0.3975
Body surface area matching (reference: R≤D, 86.1% of patients)						
R 1.6-2.2 m <sup>2</sup> , D<1.6m <sup>2</sup>	1.12	(1.01-1.23)	0.0280	0.99	(0.89-1.11)	0.8624
R>2.2m <sup>2</sup> , D<1.6m <sup>2</sup>	1.23	(1.00-1.52)	0.0532	1.16	(0.92-1.47)	0.2221
Unknown	0.89	(0.60-1.33)	0.5739	1.22	(0.80-1.87)	0.3501
Recipient body mass index (BMI) (reference: 18.5-24.9 kg/m <sup>2</sup> , 34.4% of patients)						
<18.5 kg/m <sup>2</sup>	0.94	(0.81-1.09)	0.3813	1.17	(0.98-1.40)	0.0895
25.0-29.9 kg/m <sup>2</sup>	1.04	(0.97-1.12)	0.2487	0.96	(0.89-1.03)	0.2723
30.0-34.9 kg/m <sup>2</sup>	1.16	(1.07-1.26)	0.0003	0.98	(0.90-1.07)	0.6415
≥35.0 kg/m <sup>2</sup>	1.21	(1.09-1.35)	0.0003	1.13	(1.01-1.27)	0.0391
Unknown	1.15	(0.74-1.80)	0.5393	0.92	(0.57-1.46)	0.7089
PRA (reference: ≤50%, 95.7% of patients)						
>50%	1.25	(1.09-1.43)	0.0016	1.18	(1.02-1.38)	0.0320
CMV serology (reference: donor-/recipient-, 15.3% of patients)						
Donor-/Recipient+	1.08	(0.98-1.19)	0.1218	1.05	(0.95-1.16)	0.3564
Donor+/Recipient+	1.10	(1.01-1.21)	0.0282	1.07	(0.98-1.18)	0.1430
Donor+/Recipient-	1.06	(0.96-1.16)	0.2409	1.11	(1.00-1.23)	0.0426
Baseline Immunosuppressive Regimen (reference: Tacrolimus & MMF, 48.4% of patients)						
Cyclosporine Microemulsion & MMF	1.09	(1.01-1.18)	0.0356	1.22	(1.13-1.32)	<.0001
Tacrolimus	1.49	(1.31-1.69)	<.0001	1.29	(1.12-1.48)	0.0004
None listed	7.02	(6.42-7.69)	<.0001	4.51	(4.04-5.04)	<.0001
Tacrolimus & Rapamycin	1.59	(1.41-1.79)	<.0001	1.31	(1.14-1.51)	0.0002
Other	1.60	(1.48-1.73)	<.0001	1.50	(1.38-1.63)	<.0001

Table F.26

**Risk factors for graft failure: living donor transplants, 2000–2005**

	Percent of patients	All-cause graft failure		
		Haz. ratio	95% CI	P-value
Transplant era (reference: 2000-2002, 47.7% of patients)				
2003-2005	52.3	0.88	(0.81-0.95)	0.0018
Donor relationship (reference: related, 61.4% of patients)				
Distant/unrelated	38.6	1.09	(1.00-1.18)	0.0577
Unknown	0.0	.	.	.
Recipient age (years) (reference: 18-34, 21.2% of patients)				
0-17	6.9	1.22	(1.04-1.43)	0.0152
35-49	31.1	0.83	(0.75-0.91)	<.0001
50-64	32.3	0.94	(0.85-1.03)	0.1920
65+	8.6	1.24	(1.09-1.42)	0.0010
Recipient gender (reference: female, 41.0% of patients)				
Male	59.0	0.92	(0.87-0.99)	0.0192
Recipient race (reference: white, 77.3% of patients)				
African American	15.5	1.23	(1.03-1.48)	0.0226
Asian	4.0	0.68	(0.51-0.90)	0.0076
Other/Unknown	3.2	0.82	(0.64-1.07)	0.1425
Recipient ethnicity (reference: non-Hispanic, 86.9% of patients)				
Hispanic	13.1	0.74	(0.67-0.83)	<.0001
Primary cause of ESRD (reference: glomerulonephritis, 26.0% of patients)				
Diabetes	22.4	1.30	(1.18-1.42)	<.0001
Hypertension	14.4	1.02	(0.92-1.13)	0.7112
Cystic kidney disease	10.0	0.68	(0.59-0.79)	<.0001
Other	27.3	1.00	(0.92-1.10)	0.9349
Pre-transplant hepatitis B & C serology (reference: negative/unknown)				
Hep. B Core Ab+	5.9	0.91	(0.80-1.05)	0.2025
Hep. B Surface Ag+	1.7	1.18	(0.92-1.50)	0.1933
Hep. C Ab+	2.7	1.46	(1.24-1.72)	<.0001
Education level (reference: <college, 61.9% of patients)				
College+	19.8	0.83	(0.76-0.92)	0.0001
Unknown	18.4	0.98	(0.90-1.07)	0.6887
Employment status (reference: unable to work, 18.9% of patients)				
Able to work	52.9	0.80	(0.74-0.87)	<.0001
Unknown	28.9	0.87	(0.79-0.96)	0.0047
Primary payor (reference: non-Medicare, 69.5% of patients)				
Medicare	30.5	1.07	(0.99-1.15)	0.0984
Prior dialysis time (years) (reference: <1, 33.3% of patients)				
None (preemptive)	23.8	0.78	(0.71-0.86)	<.0001
1-<2	21.0	1.20	(1.10-1.31)	<.0001
2-<3	9.1	1.27	(1.13-1.42)	<.0001
3+	10.7	1.41	(1.27-1.58)	<.0001
Unknown	2.1	0.62	(0.47-0.82)	0.0008
Donor age (years) (reference: <35, 32.6% of patients)				
35-49	47.3	1.13	(1.04-1.22)	0.0022
50-64	19.2	1.22	(1.11-1.34)	<.0001
65+	0.9	1.98	(1.53-2.55)	<.0001
Unknown	0.0	1.19	(0.29-4.80)	0.8089
Donor gender (reference: female, 58.5% of patients)				
Male	41.5	0.91	(0.85-0.97)	0.0037
Donor race (reference: white, 77.3% of patients)				
African American	13.9	1.03	(0.85-1.24)	0.7848
Asian	2.6	0.82	(0.57-1.18)	0.2948
Other/Unknown	6.3	1.05	(0.86-1.28)	0.6484



Table F.26 (continued)

## Risk factors for graft failure: living donor transplants, 2000–2005

	Percent of patients	All-cause graft failure		
		Haz. ratio	95% CI	P-value
HLA mismatches (reference: 3, 29.4% of patients)				
0	9.4	0.58	(0.51-0.67)	<.0001
1	6.3	0.87	(0.75-1.00)	0.0499
2	18.9	0.94	(0.86-1.03)	0.1591
4	12.4	0.88	(0.78-0.99)	0.0361
5	14.5	1.03	(0.92-1.15)	0.6282
6	7.7	0.96	(0.84-1.11)	0.5907
Unknown	1.3	0.87	(0.66-1.14)	0.3132
Body surface area matching (reference: R≤D, 78.3% of patients)				
R 1.6-2.2 m <sup>2</sup> , D<1.6m <sup>2</sup>	5.1	1.03	(0.89-1.20)	0.6968
R>2.2m <sup>2</sup> , D<1.6m <sup>2</sup>	0.6	1.17	(0.81-1.69)	0.3930
Unknown	16.0	1.06	(0.96-1.16)	0.2430
Recipient body mass index (BMI) (reference: 18.5-24.9 kg/m <sup>2</sup> , 36.3% of patients)				
<18.5 kg/m <sup>2</sup>	6.0	0.98	(0.84-1.15)	0.8407
25.0-29.9 kg/m <sup>2</sup>	30.1	0.99	(0.91-1.08)	0.8624
30.0-34.9 kg/m <sup>2</sup>	16.5	1.23	(1.12-1.35)	<.0001
≥35.0 kg/m <sup>2</sup>	7.6	1.42	(1.26-1.59)	<.0001
Unknown	3.4	0.92	(0.75-1.12)	0.3812
PRA (reference: ≤50, 97.8% of patients)				
>50%	2.2	1.21	(0.98-1.49)	0.0704
CMV serology (reference: donor-/recipient-, 29.4% of patients)				
Donor-/Recipient+	21.7	1.13	(1.03-1.24)	0.0082
Donor+/Recipient-	32.1	1.08	(0.99-1.18)	0.0809
Donor+/Recipient+	16.8	1.16	(1.06-1.28)	0.0025
Baseline Immunosuppressive Regimen (reference: Tacrolimus & MMF, 48.2% of patients)				
Cyclosporine Microemulsion & MMF	21.9	1.07	(0.98-1.16)	0.1487
Tacrolimus	4.5	1.29	(1.10-1.51)	0.0015
None listed	3.9	5.55	(4.99-6.19)	<.0001
Tacrolimus & Rapamycin	6.0	1.21	(1.05-1.39)	0.0083
Other	15.5	1.44	(1.32-1.58)	<.0001





Table F.26 (continued)

**Risk factors for graft failure: living donor transplants, 2000–2005**

	Return to dialysis / preemptive retransplant			Death with function		
	Haz. ratio	95% CI	P-value	Haz. ratio	95% CI	P-value
Transplant era (reference: 2000-2002, 47.7% of patients) 2003-2005	0.92	(0.83-1.02)	0.1070	0.82	(0.72-0.93)	0.0021
Donor relationship (reference: related, 61.4% of patients) Distant/unrelated	1.10	(0.99-1.23)	0.0806	1.07	(0.93-1.22)	0.3461
Unknown	.	.	.	.	.	.
Recipient age (years) (reference: 18-34, 21.2% of patients) 0-17	1.45	(1.22-1.73)	<.0001	0.80	(0.55-1.18)	0.2701
35-49	0.64	(0.57-0.71)	<.0001	1.95	(1.58-2.40)	<.0001
50-64	0.48	(0.43-0.55)	<.0001	3.51	(2.88-4.28)	<.0001
65+	0.38	(0.31-0.47)	<.0001	6.14	(4.91-7.69)	<.0001
Recipient gender (reference: female, 41.0% of patients) Male	0.80	(0.74-0.88)	<.0001	1.12	(1.01-1.25)	0.0321
Recipient race (reference: white, 77.3% of patients) African American	1.39	(1.11-1.74)	0.0038	0.99	(0.73-1.35)	0.9483
Asian	0.75	(0.53-1.08)	0.1195	0.57	(0.35-0.92)	0.0209
Other/Unknown	0.73	(0.52-1.03)	0.0702	0.99	(0.66-1.48)	0.9557
Recipient ethnicity (reference: non-Hispanic, 86.9% of patients) Hispanic	0.84	(0.73-0.97)	0.0137	0.60	(0.51-0.72)	<.0001
Primary cause of ESRD (reference: glomerulonephritis, 26.0% of pat) Diabetes	0.87	(0.76-0.98)	0.0225	2.30	(1.98-2.67)	<.0001
Hypertension	0.90	(0.79-1.02)	0.1071	1.38	(1.15-1.65)	0.0005
Cystic kidney disease	0.72	(0.60-0.86)	0.0004	0.72	(0.55-0.93)	0.0110
Other	0.82	(0.73-0.92)	0.0006	1.56	(1.32-1.84)	<.0001
Pre-transplant hepatitis B & C serology (reference: negative/unkno) Hep. B Core Ab+	0.88	(0.73-1.06)	0.1699	0.98	(0.80-1.22)	0.8786
Hep. B Surface Ag+	1.03	(0.73-1.44)	0.8785	1.39	(0.98-1.99)	0.0677
Hep. C Ab+	1.26	(1.00-1.60)	0.0521	1.71	(1.36-2.14)	<.0001
Education level (reference: <college, 61.9% of patients) College+	0.87	(0.77-0.98)	0.0260	0.78	(0.67-0.89)	0.0004
Unknown	1.08	(0.97-1.20)	0.1861	0.84	(0.74-0.96)	0.0114
Employment status (reference: unable to work, 18.9% of patients) Able to work	0.80	(0.72-0.89)	<.0001	0.80	(0.70-0.90)	0.0003
Unknown	0.76	(0.67-0.87)	<.0001	1.04	(0.89-1.21)	0.6172
Primary payor (reference: non-Medicare, 69.5% of patients) Medicare	1.17	(1.06-1.29)	0.0024	0.96	(0.86-1.08)	0.5134
Prior dialysis time (years) (reference: <1, 33.3% of patients) None (preemptive)	0.87	(0.77-0.99)	0.0307	0.67	(0.57-0.79)	<.0001
1-<2	1.15	(1.02-1.28)	0.0173	1.25	(1.09-1.42)	0.0011
2-<3	1.13	(0.97-1.32)	0.1209	1.43	(1.22-1.69)	<.0001
3+	1.18	(1.02-1.37)	0.0249	1.76	(1.49-2.07)	<.0001
Unknown	0.65	(0.45-0.93)	0.0181	0.61	(0.39-0.96)	0.0317
Donor age (years) (reference: <35, 32.6% of patients) 35-49	1.13	(1.02-1.24)	0.0177	1.12	(1.00-1.27)	0.0605
50-64	1.23	(1.09-1.39)	0.0009	1.21	(1.04-1.40)	0.0116
65+	2.40	(1.67-3.45)	<.0001	1.63	(1.13-2.35)	0.0087
Unknown	1.52	(0.37-6.21)	0.5583	.	.	.
Donor gender (reference: female, 58.5% of patients) Male	0.91	(0.83-0.99)	0.0238	0.92	(0.83-1.02)	0.1135
Donor race (reference: white, 77.3% of patients) African American	1.13	(0.90-1.43)	0.2879	0.88	(0.63-1.21)	0.4189
Asian	0.78	(0.49-1.25)	0.3066	0.86	(0.49-1.52)	0.6009
Other/Unknown	1.24	(0.97-1.58)	0.0911	0.77	(0.55-1.09)	0.1417



Table F.26 (continued)

## Risk factors for graft failure: living donor transplants, 2000–2005

	Return to dialysis / preemptive retransplant			Death with function		
	Haz. ratio	95% CI	P-value	Haz. ratio	95% CI	P-value
HLA mismatches (reference: 3, 29.4% of patients)						
0	0.50	(0.41-0.61)	<.0001	0.71	(0.57-0.88)	0.0019
1	0.83	(0.69-1.00)	0.0468	0.91	(0.73-1.13)	0.3975
2	0.89	(0.79-1.00)	0.0535	1.01	(0.87-1.16)	0.9348
4	0.84	(0.72-0.98)	0.0283	0.94	(0.78-1.13)	0.4911
5	1.03	(0.89-1.19)	0.6963	1.02	(0.85-1.21)	0.8491
6	1.01	(0.84-1.20)	0.9366	0.90	(0.72-1.13)	0.3644
Unknown	0.82	(0.57-1.17)	0.2673	0.90	(0.59-1.35)	0.6009
Body surface area matching (reference: R≤D, 78.3% of patients)						
R 1.6-2.2 m <sup>2</sup> , D<1.6m <sup>2</sup>	1.13	(0.93-1.36)	0.2260	0.91	(0.72-1.16)	0.4553
R>2.2m <sup>2</sup> , D<1.6m <sup>2</sup>	.	.	.	1.76	(1.11-2.78)	0.0167
Unknown	1.08	(0.96-1.22)	0.1816	1.03	(0.89-1.19)	0.7116
Recipient body mass index (BMI) (reference: 18.5-24.9 kg/m <sup>2</sup> , 36.3% of patients)						
<18.5 kg/m <sup>2</sup>	0.82	(0.67-0.99)	0.0360	1.50	(1.15-1.95)	0.0027
25.0-29.9 kg/m <sup>2</sup>	1.08	(0.97-1.20)	0.1869	0.88	(0.78-1.00)	0.0561
30.0-34.9 kg/m <sup>2</sup>	1.34	(1.18-1.51)	<.0001	1.06	(0.92-1.22)	0.4316
≥35.0 kg/m <sup>2</sup>	1.56	(1.34-1.81)	<.0001	1.17	(0.97-1.41)	0.0972
Unknown	0.61	(0.45-0.81)	0.0007	1.38	(1.05-1.81)	0.0223
PRA (reference: ≤50, 97.8% of patients)						
>50%	1.31	(1.02-1.70)	0.0365	1.08	(0.76-1.52)	0.6851
CMV serology (reference: donor-/recipient-, 29.4% of patients)						
Donor-/Recipient+	1.10	(0.97-1.24)	0.1495	1.17	(1.01-1.34)	0.0347
Donor+/Recipient-	1.11	(0.99-1.24)	0.0870	1.06	(0.92-1.21)	0.4370
Donor+/Recipient+	1.12	(0.99-1.27)	0.0761	1.23	(1.05-1.44)	0.0090
Baseline Immunosuppressive Regimen (reference: Tacrolimus & MMF, 48.2% of patients)						
Cyclosporine Microemulsion & MMF	1.00	(0.89-1.13)	0.9856	1.12	(0.98-1.27)	0.0864
Tacrolimus	1.37	(1.12-1.68)	0.0023	1.18	(0.92-1.51)	0.1923
None listed	7.86	(6.91-8.93)	<.0001	2.70	(2.17-3.34)	<.0001
Tacrolimus & Rapamycin	1.23	(1.03-1.48)	0.0235	1.16	(0.93-1.44)	0.1902
Other	1.49	(1.32-1.68)	<.0001	1.40	(1.21-1.60)	<.0001

