Baseline data

Considered Variables:

```
donorage10              Age of donor (decades)
age_tpl10               age of recipient (decades)
khk cmp                 coronary heart disease+MCI, Heart insufficiency+others
vascid1 vascid2         cerebrovascular/peripheral vascular dis.
year_tpl                Year of first kidney transplantation
dialysezeit             years between first RRT and TPL
cholest10               Cholest / 10
bloodpressidneu         # Bloodpressure lowering drugs
acei_arb                ACEI/ARB (contained in bloodpressidneu)
diabetes
map10                   MAP / 10
bcar                    biopsy confirmed acute rejection
dgf
creat90                 Creatinine reading at day 90 after TPL
mmsum
pra_g                   PRA: 0=0-10, 1=10-30, 2=30-100 (Dr.Oberbauers Classification)
cad                     Cadaveric donor
```

```
Used in models:
```

```
donorage1               Donor age <36     (vs. Donor age 65+)
donorage2               Donor age 36-49   (vs. Donor age 65+)
donorage3               Donor age 50-64   (vs. Donor age 65+)
immg90                  IS=CA vs. IS=noCA
noCA_DA1                Bei IS=noCA:  Donor age <36 vs. 65+
noCA_DA2                Bei IS=noCA:  Donor age 36-49 vs. 65+
noCA_DA3                Bei IS=noCA:  Donor age 50-64 vs. 65+
CA_DA1                  Bei IS=CA: Donor age <36 vs. 65+
CA_DA2                  Bei IS=CA: Donor age 36-49 vs. 65+
CA_DA3                  Bei IS=CA: Donor age 50-64 vs. 65+
```

Patient characteristics ("Table 1")

Variable (at TPL)	Total	Total	IS=CNI- (day 90)	IS=CNI-	IS=CNI+ (day 90)	IS=CNI+	P
	N non-missing	Mean (SD) or N (%) or Median (P25, P75)	N non-missing	Mean (SD) or N (%) or Median (P25, P75)	N non-missing	Mean (SD) or N (%) or Median (P25, P75)	
Donor age	1761	43.0 (16.0)	234	42.8 (15.6)	1527	43.0 (16.0)	0.84
Recipient age	1829	48.2 (15.5)	242	45.3 (15.1)	1587	48.6 (15.5)	0.002
KHK	1125	271 (24.1%)	154	29 (18.8%)	971	242 (24.9%)	0.10
CMP	1125	169 (15.0%)	154	14 (9.1%)	971	155 (16.0%)	0.027
Vascid1	1062	127 (12.0%)	150	9 (6.0%)	912	118 (12.9%)	0.015
Vascid2	1062	206 (19.4%)	150	19 (12.7%)	912	187 (20.5%)	0.025
Year of first RRT	1829	1994 (1991, 1998)	242	1992 (1989, 1997)	1587	1995 (1991, 1998)	<0.001
Year of (first) TX	1829	1996 (1993, 2000)	242	1994 (1991, 1999)	1587	1997 (1993, 2000)	<0.001
Years on dialysis	1829	2.2 (1.9)	242	2.2 (2.1)	1587	2.2 (1.9)	0.74
Cholesterol at TX	1520	210.0 (72.5)	170	200.7 (89.1)	1350	211.2 (70.1)	0.077
Bloodpressidneu (# blood pressure lowering drugs)	1829	2 (1, 3)	242	0 (0, 3)	1587	2 (1,3)	<0.001
ACEI/ARB	1829	725	242	59	1587	666	<0.001

		(39.6%)		(24.4%)		(42.0%)	
Diabetes	1829	379 (20.7%)	242	40 (16.5%)	1587	339 (21.4%)	0.084
MAP (at TX)	1593	100.0 (93.3, 110.0)	177	101.7 (93.3, 110.0)	1416	100.0 (92.4, 110.0)	0.18
Hypertension (MAP>107 or >=1 bp med.)	1829	1516 (82.9%)	242	150 (62.0%)	1587	1366 (86.1%)	<0.001
PRA: 0-10 PRA: 10-30 PRA: 30-100	1756	1523 (86.7%) 152 (8.7%) 81 (4.6%)	230	199 (86.5%) 20 (8.7%) 11 (4.8%)	1526	1324 (86.6%) 132 (8.7%) 70 (4.6%)	0.99
MMSUM	1663	3 (2, 3)	170	3 (2, 3)	1493	3 (2, 3)	0.51
Cadaveric kidney donors	1812	1692 (93.4%)	238	225 (94.5%)	1574	1467 (93.2%)	0.44
Mediators:							
BCAR	1829	586 (32.0%)	242	81 (33.5%)	1587	505 (31.8%)	0.61
DGF	1718	372 (21.7%)	227	51 (22.5%)	1491	321 (21.5%)	0.75
Creatinine at day 90	1720	1.6 (1.3, 2.5)	205	1.8 (1.3, 2.8)	1515	1.6 (1.3, 2.4)	0.030

Correlations

All Pearson correlation coefficients whose absolute values are greater than 0.2:

```
_NAME_              _with_          corr_p          _grade_

year_tpl            year_first      0.90182     *** Strong   ***
bloodpressidneu     acei_arb        0.64907     *** Moderate ***
year_tpl            bloodpress      0.48585     *** Weak     ***
year_firstrrt       bloodpress      0.42644     *** Weak     ***
khk                 vascid2         0.41522     *** Weak     ***
year_tpl            acei_arb        0.39868     *** Weak     ***
vascid2             diabetes        0.36589     *** Weak     ***
year_firstrrt       acei_arb        0.36454     *** Weak     ***
donorage10          dgf             0.33878     *** Weak     ***
age_tpl10           khk             0.33516     *** Weak     ***
age_tpl10           vascid2         0.29976
khk                 diabetes        0.28057
donorage10          year_tpl        0.23182
donorage10          year_first      0.20937
age_tpl10           vascid1         0.20850
khk                 vascid1         0.20255
khk                 cmp            -0.23685
year_firstrrt       cholest10      -0.24577
year_tpl            cholest10      -0.28283
year_firstrrt       dialysezei     -0.38391     *** Weak     ***
```

Propensity analysis

Which variables are independent predictors of type of immunosuppresive regimen?
Multivariable logistic regression analysis, backward stepwise elimination, no interactions assumed

Odds ratios: >1 - > high value of variable favours CNI+
                <1 - > high value of variable favours CNI-

```
                        Lower      Upper
                Odds    95% CL     95% CL    Pr >
Parameter       Ratio   OR         OR        |t|


year_tpl        1.11681  1.07784   1.15720   <.0001
cholest10       1.02375  1.00213   1.04585   0.0313
```

How much of the variation in IS is explained by these variables (computed via the relimplr macro available at www.meduniwien.ac.at/msi/biometrie):

```
Proportion of Explained Variation (PEV)
=======================================


PEV        Marginal   Partial    Variables
=======    ========   =======    =========


1              2.24%     2.86%    year_tpl
2              0.05%     0.67%    cholest10
-------------------------------
Model          2.91%
```

Association of variables with donor age

This analysis compares the distribution of all confounders between the 4 groups defined by donor age. Significant associations were found for: (cf. Appendix A for full results):

	Donor age														
	All			<36			36-49			50-64			65+		
	year_tpl			year_tpl			year_tpl			year_tpl			year_tpl		
	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std
year_tpl P=0	1761	1996	4.1	547	1995	4.1	552	1996	4.1	511	1997	3.9	151	1998	3.8
age_tpl P=0	1761	48.1	15.5	547	46.3	16.5	552	46.4	15.1	511	48.5	13.6	151	59.5	14.0
mmsum P=0	1606	2.4	1.3	492	2.3	1.2	498	2.4	1.3	476	2.4	1.3	140	3.0	1.5

	Donor age									
	All		<36		36-49		50-64		65+	
	N	ColPctN	N	ColPctN	N	ColPctN	N	ColPctN	N	ColPctN
Khk										
0	829	76.4	234	76.0	270	79.9	256	78.5	69	61.1
1	256	23.6	74	24.0	68	20.1	70	21.5	44	38.9
khk P=0.0005	1085	100.0	308	100.0	338	100.0	326	100.0	113	100.0
vascid2										
0	831	81.0	233	79.3	259	82.0	269	86.8	70	66.0
1	195	19.0	61	20.7	57	18.0	41	13.2	36	34.0
vascid2 P=0	1026	100.0	294	100.0	316	100.0	310	100.0	106	100.0
Diabetes										
0	1399	79.4	417	76.2	457	82.8	416	81.4	109	72.2
1	362	20.6	130	23.8	95	17.2	95	18.6	42	27.8
diabetes P=0.004	1761	100.0	547	100.0	552	100.0	511	100.0	151	100.0
dgf										
0	1319	78.5	492	93.9	433	82.5	318	65.3	76	52.4
1	362	21.5	32	6.1	92	17.5	169	34.7	69	47.6
dgf P=0	1681	100.0	524	100.0	525	100.0	487	100.0	145	100.0

	Donor age																			
	All				<36				36-49				50-64				65+			
	creat90				creat90				creat90				creat90				creat90			
	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75
creat90 P=0	1657	1.6	1.3	2.5	499	1.5	1.2	2.2	524	1.6	1.2	2.5	491	1.7	1.4	2.8	143	1.9	1.4	3.4

Associations of variables with the interaction of donor age and CNI:

The following table shows the p-values for testing an interaction of CNI and donor age in the model
Variable ~ CNIGroup + DonorAgeGroup + CNIxDonorAge, using a general linear or a logistic model for continuous or categorical variables, respectively.

Obs	variable	pvalue
1		.
2	map10	0.10020
3	year_tpl	0.83647
4	dialysezeit	0.89662
5	cholest	0.02133
6	age_tpl	0.01141
7	MMSum	0.09564
8	pra_g	0.17232
9	khk	0.34927
10	cmp	0.45416
11	vascid1	0.60520
12	vascid2	0.79019
13	diabetes	0.69551
14	bcar1	0.33351
15	dgf	0.68446
16	cad	0.53177
17	logcreat90	0.00050

								Donor age									
	All			<36			36-49			50-64			65+				
	Cholest			cholest			cholest			cholest			cholest				
	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std		
CNI- P=0.0796	1301	211.7	70.5	380	219.5	77.9	413	208.6	66.7	388	209.0	68.8	120	206.1	62.4		
CNI+ P=0.2534	164	199.9	90.3	37	176.4	83.3	59	211.7	79.9	55	198.8	94.1	13	218.7	128.3		

							Donor age								
		All			<36			36-49			50-64			65+	
		age_tpl			age_tpl			age_tpl			age_tpl			age_tpl	
	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std
CNI- P=0	1527	48.6	15.5	480	47.2	16.0	467	46.3	15.3	446	48.8	13.8	134	60.5	13.5
CNI+ P=0.0053	234	45.1	15.1	67	39.9	18.4	85	46.8	13.7	65	46.4	11.5	17	51.7	15.3

									Donor age										
		All				<36				36-49				50-64				65+		
		creat90				Creat90				creat90				creat90				creat90		
	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75	N	Median	P25	P75
CNI- P=0	1458	1.6	1.3	2.5	449	1.5	1.2	2.0	452	1.6	1.2	2.5	429	1.7	1.4	2.7	128	1.9	1.5	3.4
CNI+ P=0.0331	199	1.8	1.3	2.9	50	2.1	1.3	4.3	72	1.6	1.1	2.3	62	2.0	1.5	3.2	15	1.9	1.2	2.9