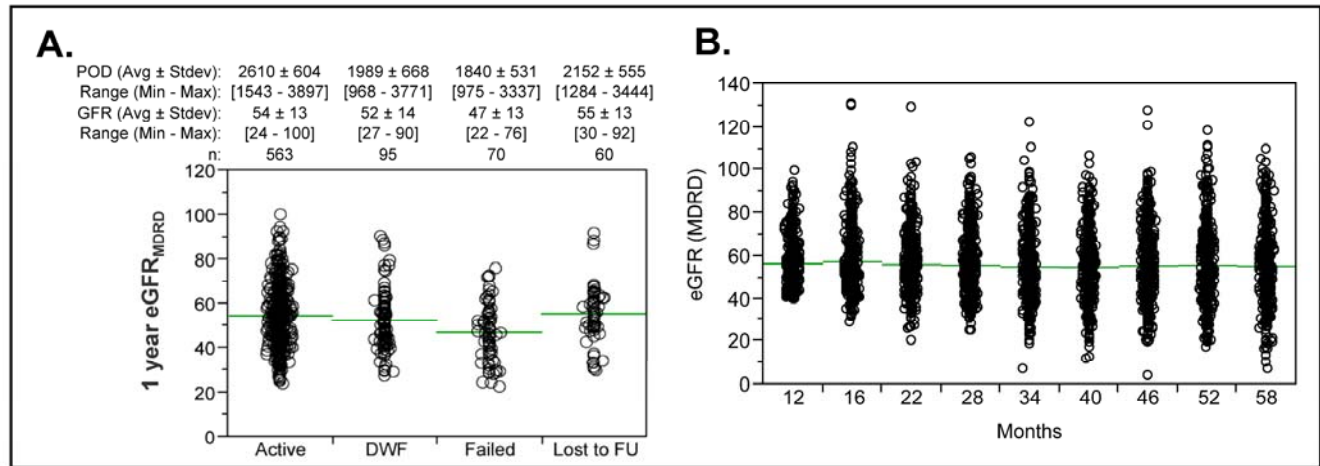


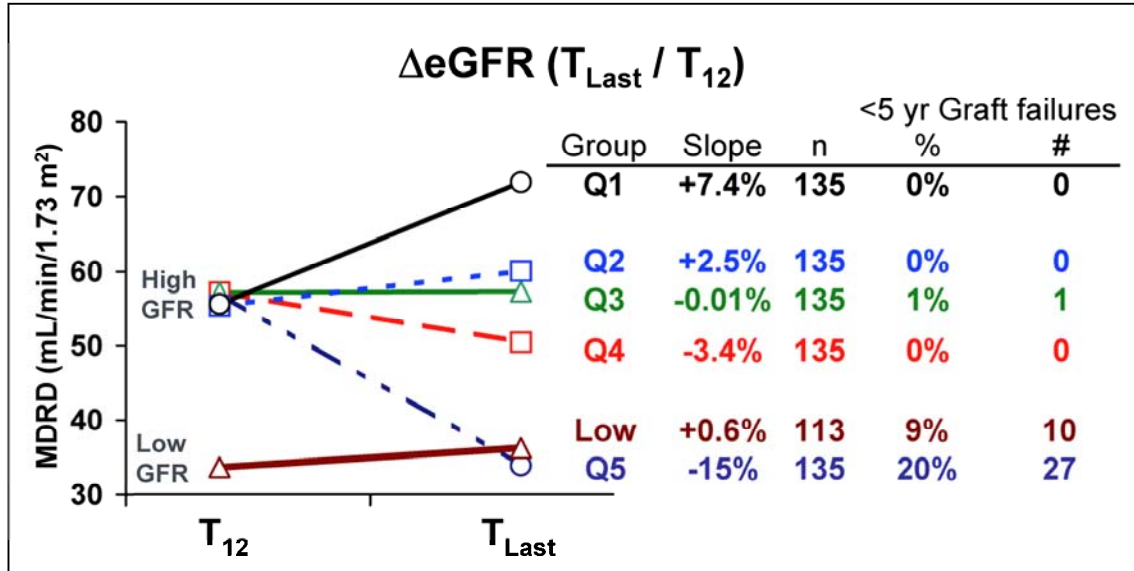
Supplemental Digital Content (SDC)

Supplemental Figure S1



Distribution of renal function for each organ status and over time: A. 1 year eGFR_{MDRD} values are shown for all kidney transplants with sufficient creatinine measurements to generate an eGFR slope ($n = 778$) categorized according to outcome (Active, Death with Function (DWF), Failed and Lost to Follow-up (FU)). Values for individual transplants are shown as open circles and group mean values as horizontal green lines. Means \pm SD and ranges for post-operative day (POD) follow-up and eGFR_{MDRD} (in ml/min) are shown in text for each group. **B.** For kidney transplants with 1 year eGFR_{MDRD} ≥ 40 ml/min and sufficient creatinine measurements to generate an eGFR slope, the values for eGFR_{MDRD} within each 6-month time-interval between 12 and 58 months post-transplant are plotted. For the 12-month time-point the mean eGFR_{MDRD} from 12 ± 1 month was used. For each subsequent time-points, the mean of all eGFR_{MDRD} values within each 6 month interval was plotted. Values for individual transplants are shown as open circles and group mean values as horizontal green lines.

Supplemental Figure S2



Changes in Renal Allograft Function and Graft Survival from 1 year after Transplantation. The figure demonstrates the changes in renal allograft function (estimated glomerular filtration rate, GFR, by MDRD) and death-censored graft failures between 2.5 and 5 years after transplantation. At 1 year, 113 grafts had a GFR < 40 ml/min (Low GFR) and 675 had a GFR \geq 40 ml/min (High GFR). The slope in the change in GFR was determined using serial serum creatinine levels from 1 to 5 years post-transplant. The high GFR group was split into quintiles based on the slope of GFR. In the High GFR group, the slope of the GFR was stable or increasing during follow-up in 60% of grafts with a single graft failure. In contrast, the High GFR quintile with the greatest decline in GFR (slope -15%) had 20% graft failures by 5 years which was lower than that of grafts with Low GFR at 1 year (9%) and contained more graft losses (27 vs 10).

Supplemental Table S1: A. Relationships between categorization as Progressor/Non-Progressor status and graft failure during follow-up using varying methods for calculating estimated GFR (eGFR) or measuring uncorrected true GFR (GFRu) within the “High GFR” cohort of study subjects. **B.** Proportions of study subjects within the “High GFR” cohort for which eGFR or GFRu values or categorization as Non-Progressor (NP) and Progressor (P) status by different methods produced results identical to those derived by 6-month averaged eGFR_{MDRD}.

A.

	# Failed Grafts with sufficient lab values	Failed Grafts considered Progressor % #	Progressor grafts who have failed % #	Non-Progressor grafts who have failed % #
eGFR _{MDRD} (6m interval)	48	85% 41	34% n41/122	1.3% n7/553
eGFR _{MDRD} (individual)	48	85% 41	38% n41/110	1.3% n7/565
GFRu (individual)	7	86% 6	17% n6/32	0.8% n1/136
eGFR _{Mayo} (individual)	48	88% 42	36% n42/116	1.1% n6/559
eGFR _{1/SCr} (individual)	48	83% 40	40% n40/99	1.4% n8/576

B.

	Total #	% identical	% NP identical	% P identical
eGFR_{MDRD} (6m interval) vs				
eGFR _{MDRD} (individual)	675	96%	97%	94%
GFRu (individual)	168	88%	95%	59%
eGFR _{Mayo} (individual)	675	96%	98%	87%
eGFR _{1/SCr} (individual)	675	95%	99%	75%

Summary of Methods:

eGFR_{MDRD} (6m interval): The MDRD formula was applied to all serum creatinine values within each 6-month post-transplant follow-up interval and the slope was calculated from the plot of mean eGFR value per 6-month interval.

eGFR_{MDRD} (individual): The MDRD formula was applied to all serum creatinine values within the entire post-transplant interval and the slope was calculated from the plot of individual eGFR values over time.

GFRu (individual): The values for all uncorrected iothalamate clearances carried out during the entire post-transplant follow-up interval were collated and the slope was calculated from the plot of these individual GFRu values over time.

eGFR_{Mayo} (individual): The Mayo formula (as described by Rule et al., Ann Intern Med, 2004, 141:929-37) was applied to all serum creatinine values within the entire post-transplant interval and the slope was calculated from the plot of individual eGFR values over time.

eGFR_{1/SCr} (individual): The inverse of all serum creatinine values within the entire post-transplant interval was derived and the slope was calculated from the plot of individual values over time.