

## Item S1. Description of the Study Population

We included data from 1,112 subjects from the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI), including 1,108 subjects with serum urea or serum urea nitrogen (SUN). CKD-EPI is a research group established by the National Institute of Diabetes and Digestive and Kidney Diseases. Investigators collaborating with CKD-EPI provided data from research studies and clinical populations for the development and validation of GFR estimating equations.<sup>1</sup> The CKD-EPI equation was developed on 5,501 subjects and internally validated on 2,750 participants from 10 studies, then externally validated in a separate cohort (n=3,869) from 16 studies. This external validation cohort included 1,134 solid organ transplant recipients from 4 studies (Baylor, Lund, Groningen, CCFP) which were included in the present study. Information on age, sex race, height, weight and serum creatinine was not available on 22 subjects who were excluded. Serum urea or SUN was not available on 4 subjects.

We also included additional kidney transplant recipients (n=587) from Groningen. One subject had missing weight and was excluded. Serum urea was available on all the subjects. We included data from 1,924 subjects from the Mayo Clinic, Rochester, MN, including 1,208 subjects with SUN. Data from the Mayo Clinic were collected from June 1, 2007 to January 29, 2010, on all adult patients (including transplant recipients) who underwent simultaneous measurements of serum creatinine and GFR.<sup>2</sup> There were 2,475 transplant recipients. We excluded subjects who were less than 6 months post- (n=540) and subjects who had bone marrow transplants (n=11). A total of 716 subjects had missing SUN and SUN was not used in 44 subjects in whom the difference between serum creatinine values on the day of mGFR assessment and the day of SUN measurement was greater than 0.2 mg/dl or less than -0.2 mg/dl.

In summary, GFR was estimated on 3,622 patients, including 2858 patients with serum urea or SUN (Table S4 & Figure S1).

### Method for measuring GFR:

GFR was measured by urinary clearance of iothalamate (98.8%) and plasma clearance of iohexol in (1.2%) of the patients. The method for GFR measurement by urinary clearance of iothalamate and plasma clearance of iohexol have been described previously.<sup>1-3</sup>

### Item S1 References

1. Levey AS, Stevens LA, Schmid CH, et al. A new equation to estimate glomerular filtration rate. *Ann Intern Med*. 2009;150(9):604–612.
2. Murata K, Baumann NA, Saenger AK, Larson TS, Rule AD, Lieske JC. Relative Performance of the MDRD and CKD-EPI Equations for Estimating Glomerular Filtration Rate among Patients with Varied Clinical Presentations. *Clin J Am Soc Nephrol*. 2011. doi:10.2215/CJN.02300311.
3. Nilsson-Ehle P. Iohexol clearance for the determination of glomerular filtration rate: 15 years' experience in clinical practice. *The electronic journal of the International Federation of Clinical Chemistry*. 13(2). Available at: <http://www.ifcc.org/ejifcc/vol13no2/1301200105.htm>.