Supplemental Table 1: Summary of GFR estimation formulae

Estimating formula	Patient data	Formula derivation	Biochemical methods	Equation
Schwartz 1976	n = 186, age 0.5 – 20	Creatinine clearance	Creatinine modified Jaffé (Technicon)	k* x L (cm) / Scr
Counahan 1976	n = 108, age 0.2 – 14, GFR 4 – 200	^{51}CR-EDTA clearance	Creatinine modified Jaffé (Technicon)	0.43 x L (cm) / Scr
Filler & Lepage 2003	n = 536, mean age 11.2 (1 – 18), mean GFR 103 (7 – 209)	^{99}mTc-DTPA clearance	Cystatin C nephelometric immunoassay (PENIA, Dade Behring)	$91.62 \times (1 / CysC)^{1.123}$
Grubb 2005	n = 85, age 14 – 17: median GFR 98.5 (11 – 150) age 0.3 – 13: median GFR 113 (37 – 240)	Iohexol clearance	Cystatin C turbidimetric immunoassay (PETIA, Hitachi Modular P)	$84.69 \times CysC^{-1.680}$ (x 1.384 if age <14)
Bouvet 2006	n = 100, mean age 13.4 (1.4 – 22.8), mean GFR 95 (18 – 200)	^{51}Cr-EDTA clearance	Creatinine kinetic Jaffé method (Olympus Analyzer) Cystatin C nephelometric (PENIA)	$63.2 \times (Scr \times 0.92)^{-0.35} \times (CysC / 1.2)^{-0.56} \times (w / 45)^{0.30} \times (age / 14)^{0.40}$
Zappitelli 2006	n = 103, mean age 12.7 (range 1 – 18) mean GFR 74	Iothalamate clearance	Creatinine enzymatic (Vitros) Cystatin C nephelometric (PENIA, Dade Behring)	a) $75.94 / (CysC^{1.17})$ (x 1.2 if renal transplant) b) $43.82 \times (1 / CysC)^{0.635} \times (1 / Scr)^{0.547} \times 1.35^{L(m)}$ (x 1.165 if renal transplant) (x 1.57 x $Scr^{0.925}$ if spina bifida)
Schwartz 2009 CKiD and Schwartz-Bedside 2009	n = 349, median age 10.8 (1 – 16), median GFR 41.3	Iohexol clearance	Creatinine (enzymatic) and BUN (Advia 2400, Siemens) Cystatin C turbidimetric (Dako)	$39.1 \times (L (m) / Scr)^{0.516} \times (1.8 / CysC)^{0.294} \times (30 / BUN)^{0.169} \times (L (m) / 1.4)^{0.188}$ (x 1.099 if male) 0.413 x L (cm) / Scr
CKiD 2012+ and CKiD-Bedside 2012	n = 965 person-visits age 1 – 16 median GFR 43.3	Iohexol clearance	Creatinine (enzymatic) and BUN (Advia 2400, Siemens) Cystatin C nephelometric (Siemens)	$39.8 \times (L (m) / Scr)^{0.456} \times (1.8 / CysC)^{0.418} \times (30 / BUN)^{0.079}$ (x 1.076 if male) x $(L (m) / 1.4)^{0.179}$ $70.69 \times CysC^{-0.931}$
Grubb 2014 CAPA	n = 456, median age 12, median GFR 103	Iohexol- and inulin clearance	Cystatin C nephelometric and turbidimetric assay (Abbott, Dako, Gentian, Roche, Sentinel and Siemens), calibration to ERM-DA471/IFCC	$130 \times Cys^{-1.069} \times age^{-0.117} - 7$

Legend: k*, coefficient: neonates 0.45, age 2 – 12 and female adolescents 0.55, male adolescents ≥ 13 years 0.7; w, body weight (kg); L, body length, (cm or m as indicated in brackets); Scr, serum creatinine (mg/dL); CysC, Serum cystatin C (mg/L); BUN, blood urea nitrogen (mg/dL); GFR in ml/min per 1.73m^2, except Bouvet et al. 2006: mL/min; citations shown in elevated brackets.