

Estimating formula	Patient data	Formula derivation	Biochemical methods	Equation
Schwartz 1976	n = 186, age 0.5 – 20	Creatinine clearance	Creatinine modified Jaffé (Technicon)	$k^* \times L \text{ (cm)} / \text{Scr}$
Counahan 1976	n = 108, age 0.2 – 14, GFR 4 – 200	^{51}Cr -EDTA clearance	Creatinine modified Jaffé (Technicon)	$0.43 \times L \text{ (cm)} / \text{Scr}$
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)	$91.62 \times (1 / \text{CysC})^{1.123}$
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)	$84.69 \times \text{CysC}^{-1.680} (\times 1.384 \text{ if age } < 14)$
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)	$63.2 \times (\text{Scr} \times 0.92)^{-0.35} \times (\text{CysC} / 1.2)^{-0.56} \times (w / 45)^{0.30} \times (\text{age} / 14)^{0.40}$
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) $75.94 / (\text{CysC}^{1.17})$ ($\times 1.2$ if renal transplant) b) $43.82 \times (1 / \text{CysC})^{0.635} \times (1 / \text{Scr})^{0.547} \times 1.35^{L(m)}$ ($\times 1.165$ if renal transplant) ($\times 1.57 \times \text{Scr}^{0.925}$ if spina bifida)
Schwartz 2009 CKiD	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)	$39.1 \times (L \text{ (m)} / \text{Scr})^{0.516} \times (1.8 / \text{Cys})^{0.294} \times (30 / \text{BUN})^{0.169} \times (L \text{ (m)} / 1.4)^{0.188} (\times 1.099 \text{ if male})$
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	$130 \times \text{Cys}^{-1.069} \times \text{age}^{-0.117} - 7$

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 cystatine C

(mg/L); BUN, blood urea nitrogen (mg/dL); GFR in ml/min per 1.73m^2 , except Bouvet et al. 2006: mL/min.