Supplementary Data Table S2

Table S2 List of extracted equations with their abbreviations, expressions and references

No.	Name	Abbreviation	Equation	Reference
1.	Cockcroft-Gault	CG	(140-age) × Wt/72 × Scr × (0.85 if female)	[1]
2.	MDRD	MDRD	186 × $SCr^{-1.154}$× $age^{-0.203}$× (0.74 if female) × (1.21 if African)	[2]
3.	Re-expressed abbreviated MDRD or IDMS-MDRD	re-aMDRD or IDMS-MDRD	175 × $(Scr)^{-1.154}$ × $(Age)^{-0.203}$ × 0.742 (if female) × 1.212(if black)	[3]
4.	7MDRD	7MDRD	170 × $(Scr)^{-0.999}$ × $(Age)^{-0.176}$ × 0.762 (if female) × 1.180 (if black) × $(BUN)^{-0.170}$ × $(Alb)^{0.318}$	[4]
5.	Chinese-modified MDRD	c-MDRD	1.233 × 186 × $SCr^{-1.154}$× $age^{-0.203}$× (0.742 if female)	[5]
6.	American-modified MDRD	American-MDRD	186 × $SCr^{-1.154}$× $age^{-0.203}$× (0.742 if female)	[2]
7.	2009 CKD-EPI	CKD-EPI-Cr	141 × min (Scr(mg/dL)/k,1)a × max (Scr(mg/dL)/k, 1)$^{-1.209}$× 0.993^{age}× (1.018, if female) × (1.159, African) (female: k = 0.7, a = 0.329; male: k = 0.9, a = 0.411)	[6]
8.	2012 Cystatin-C-based CKD-EPI	CKD-EPI-CysC	133 ×min (CysC/0.8, 1)$^{-0.499}$×max (CysC/0.8, 1)$^{-1.328}$ × 0.996$^{age\ (years)}$ (×0.932 if female)	[7]
9.	2012 Creatinine and Cystatin-C based CKD-EPI	CKD-EPI-Cr-CysC	135 × min (Pcr/κ, 1)$^{\alpha}$×max (Pcr/κ, 1)$^{-0.601}$× $min\ (CysC/0.8, 1)^{-0.375}$ ×max (CysC/0.8, 1)$^{-0.711}$× 0.995$^{\text{age (years)}}$ × (0.969 if female) (κ is 0.7 for females and 0.9 for males; α is –0.248 for females and –0.207 for males.) × 1.08 (if African American)	[7]
10.	New Asian-modified CKD-EPI	EPI-Asian	male: eGFR = (2009 CKD-EPI) × 1.057; female: eGFR = (2009 CKD-EPI) × 1.049	[8]
11.	Pakistani CKD-EPI Equation	CKD-EPI-PK	$0.686 \times (2009\ \text{CKD} - \text{EPI})^{1.059}$	[9]
12.	Berlin Initiative Study equation 1	BIS-Cr or BIS-1	3726 × $SCr^{0.87}$ × $age^{-0.95}$ (×0.82, if female)	[10]
13.	Berlin Initiative	BIS-Cr-CysC or BIS-2	767 × $SCysC^{-0.61}$ × $SCr^{-0.40}$ × $age^{-0.157}$ (× 0.87, if female)	[10]

	Study equation 2			
14.	Japanese-modified MDRD	JSN-CKDI	171 × $SCr^{-1.004}$ × $age^{-0.287}$× (0.782 if female)	[11]
15.	Japanese modified creatinine based CKD-EPI	Eq-Cr	0.813 × (2009 CKD-EPI)	[12]
16.	Japanese equation based on standardized SCysC	Eq-CysC	96 × $CysC^{-1.324}$× 0.996^{age}× 0.894 (if female)	[13]
17.	Japanese equation based on standardized SCr in combination with SCysC	Eq-Cr-CysC	92 × $CysC^{-0.575}$ × $SCr^{-0.670}$ × 0.995^{age} × 0.784 (if female)	[13]
18.	Japanese equation based on standardized SCysC with a nonrenal factor reflecting hypothesized extrarenal elimination	Eq-CysC-Nonrenal	{104 × $CysC^{-1.019}$ × 0.996^{age}× 0.929 (if female)} – 8	[13]
19.	Larrson	Larrson	77.24 × $CysC^{-1.2623}$(Dade Behring Cys C calibration)	[14]
20.	Rule	Rule	76.6 × $CysC^{-1.16}$	[15]
21.	2003 Hoek Equation	2003 Hoek	80.35/Cys C - 4.32	[16]
22.	Filler	Filler	91.62 × $CysC^{-1.123}$ Log (GFR) =1.962 + [1.123 × log (1/Cys C)])	[17]
23.	Grubb	Grubb	99.19 × $CysC^{-1.713}$ × (0.823 if female)	[18]
24.	Grubb Equation 2	Grubb 2	84.64 × $CysC^{-1.686}$ × (0.948, if female) × 1.384 (if a child <14 years)	[19]
25.	Creatinine-based Japanese Society of	eGFR-Cr	194 × $SCr^{-1.904}$× $age\ (years)^{-0.287}$(×0.739 if female)	[20]

	Nephrology equation			
26.	Cystatin-C-based Japanese Society of Nephrology equation	eGFR-CysC	$(104 \times CysC^{-1.019} \times 0.996^{age\ (years)}) - 8$ (male) $(104 \times CysC^{-1.019} \times 0.996^{age\ (years)} \times 0.929) - 8$ (female)	[20]
27.	Revised Lund-Malmö Study equation	R-LM	$e^{X-0.0158\times Age+0.438\times \ln(Age)}$ Female pCr＜150μmol/L： X=2.50+0.0121×(150-pCr) Female pCr≥150μmol/L：X=2.50-0.926×ln(pCr/150) Male pCr＜180μmol/L： X=2.56+0.00968×(180-pCr) Male pCr≥180μmol/L：X=2.56-0.926×ln(pCr/180)	[21]
28.	CAPA Equation	CAPA	$130 \times CysC^{-1.069} \times age^{-0.117} - 7$	[22]
29.	Creatinine-based Full Age Spectrum Equation	FAS-Cr	$107.3/(SCr/Q_{SCr}) \times [\ 0.988^{(Age-40)}$ when age＞40 years] Q-values are the mean or median SCr value for age-/sex-specific healthy populations.	[23]
30.	Cystatin-C-based Full Age Spectrum Equation	FAS-CysC	$107.3/(CysC/Q_{CysC}) \times [\ 0.988^{(Age-40)}$ when age＞40 years]	[24]
31.	Combined Cystatin-C and Creatinine-based Full Age Spectrum Equation	FAS-Cr-CysC	$107.3/[\alpha \times (SCr/Q_{SCr}) + (1-\alpha) \times (CysC/Q_{CysC})\ ] \times [\ 0.988^{(Age-40)}$ when age＞40 years]	[24]
32.	MacIsaac Equation	MacIsaac	86.7 / CysC -4.2	[25]
33.	Pei (Modified MacIsaac) Equation	Pei (Modified MacIsaac)	77.30/CysC +2.32	[26]
34.	Feng Cystatin-C Equation	Feng-CysC	$78.64 \times CysC^{-0.964}$	[27]
35.	Feng Creatinine and Cystatin-C Equation	Feng-Cr-CysC	Female $173.9 \times scr^{-0.184} \times cys^{-0.725} \times age^{-0.193} \times 0.89$ Male $173.9 \times scr^{-0.184} \times cys^{-0.725} \times age^{-0.193}$	[27]
36.	1976 Schwartz Equation	Schwartz1976	$55 \times \frac{H}{SCrJ} \times 1.273^{boy>13yrs}$ H=Height in meters SCrJ means creatinine measured by Jaffe method	[28]

37.	2009 Schwartz Equation	Schwartz2009	$41.3 \times \frac{H}{SCrE}$ H=Height in meters ScrE means creatinine measured by IDMS-traceable enzymatic method	[29]
38.	Chronic Kidney Disease in Children Study Equation	CKiD	$39.1 \times \frac{H}{SCrE}^{0.516} \times \frac{1.8}{CysC}^{0.294} \times \frac{30}{BUN}^{0.169} \times [1.099^{boy}] \times \frac{H}{1.4}^{0.188}$ H=Height in meters BUN= blood urea Nitrogen ScrE means creatinine measured by IDMS-traceable enzymatic method	[29]
39.	Modified CKD-EPI Equation by Pei	Modified CKD-EPI by Pei	Female ≤ 62μmol/liter $144 \times \frac{SCr}{0.7}^{0.156} \times 0.993^{age}$ Female ≥ 62μmol/liter $144 \times \frac{SCr}{0.7}^{-1.057} \times 0.993^{age}$ Male ≤ 80μmol/liter $141 \times \frac{SCr}{0.9}^{0.074} \times 0.993^{age}$ Male ≤ 80μmol/liter $141 \times \frac{SCr}{0.9}^{-1.057} \times 0.993^{age}$	[26]
40.	Modified MDRD Equation by Pei	Modified MDRD by Pei	$186 \times SCr^{-0.830} \times Age^{-0.230} \times$ (0.742 if female)	[26]
41.	Chinese new creatinine-based MDRD Equation	Ma-Cr	Female $175 \times (scr)^{-1.234} \times age^{-0.179} \times 0.79$ Male $175 \times (scr)^{-1.234} \times age^{-0.179}$	[5]
42.	Chinese new cystatin C based Equation	Ma-CysC	$86 \times cys^{-1.132}$	[30]
43.	Chinese new creatinine and cystatin-C based Equation	Ma-Cr-CysC	Female $169 \times scr^{-0.608} \times cys^{-0.63} \times age^{-0.157} \times 0.83$ Male $169 \times scr^{-0.608} \times cys^{-0.63} \times age^{-0.157}$	[30]
44.	Chinese new creatinine and cystatin-C based Equation	Ma-Cr-CysC Equation 1	$176 \times SCr^{-0.607} \times SCysC^{-0.638} \times age^{-0.171}$ (×0.85,if female)	[30]
45.	Beta-2 microglobulin Equation	B2M	$133 \times B2M^{-0.852}$	[31]

46.	Yang Du Creatinine-based Equation	C-CKD-EPI-Cr	Female ≤ 0.7 $125 \times \frac{SCr^{-0.329}}{0.7} \times 0.993^{Age}$ Female ≥ 0.7 $125 \times \frac{SCr^{-1.209}}{0.7} \times 0.993^{Age}$ Male ≤ 0.9 $123 \times \frac{SCr^{-0.411}}{0.9} \times 0.993^{Age}$ Male ≥ 0.9 $123 \times \frac{SCr^{-1.209}}{0.9} \times 0.993^{Age}$	[32]
47.	Yang Du Cystatin-C based Equation	C-CKD-EPI-CysC	≤ 0.8 $117 \times \frac{SCysC)^{-0.499}}{0.8} \times 0.996^{age}$ ≥ 0.8 $117 \times \frac{SCysC)^{-1.328}}{0.8} \times 0.996^{age}$	[32]
48.	Yang Du Creatinine and Cystatin-C based Equation	C-CKD-EPI-Cr-CysC	Female Scr ≤ 0.7 SCysC ≤ 0.8 $116 \times \frac{Scr^{-0.248}}{0.7} \times \frac{SCysC)^{-0.375}}{0.8} \times 0.996^{age}$ Female Scr ≤ 0.7 SCysC > 0.8 $116 \times \frac{Scr^{-0.248}}{0.7} \times \frac{SCysC)^{-0.711}}{0.8} \times 0.996^{age}$ Female Scr > 0.7 SCysC ≤ 0.8 $116 \times \frac{Scr^{-0.601}}{0.7} \times \frac{SCysC)^{-0.375}}{0.8} \times 0.996^{age}$ Female Scr > 0.7 SCysC > 0.8 $116 \times \frac{Scr^{-0.601}}{0.7} \times \frac{SCysC)^{-0.711}}{0.8} \times 0.996^{age}$ Male Scr ≤ 0.9 SCysC ≤ 0.8 $120 \times \frac{Scr^{-0.207}}{0.9} \times \frac{SCysC)^{-0.375}}{0.8} \times 0.996^{age}$ Male Scr ≤ 0.9 SCysC > 0.8 $120 \times \frac{Scr^{-0.207}}{0.9} \times \frac{SCysC)^{-0.711}}{0.8} \times 0.996^{age}$ Male Scr > 0.9 SCysC ≤ 0.8 $120 \times \frac{Scr^{-0.601}}{0.9} \times \frac{SCysC)^{-0.375}}{0.8} \times 0.996^{age}$ Male Scr > 0.9 SCysC > 0.8 $120 \times \frac{Scr^{-0.601}}{0.9} \times \frac{SCysC)^{-0.711}}{0.8} \times 0.996^{age}$	[32]
49.	Xiangya Equation	Xiangya	Male $2{,}374.78 \times SCr^{-0.54753} \times Age^{-0.25011}$ Female $2{,}374.78 \times SCr^{-0.54753} \times Age^{-0.25011} \times 0.8526126$	[33]
50.	CKD-EPI Equations Re-expressed for Standardized SCysC	Standardized SCysC CKD-EPI Equation 1	$76.7 \times (-0.105 + 1.13 \times \text{standardized SCysC})^{-1.19}$	[34, 35]

51.	CKD-EPI Equations Re-expressed for Standardized SCysC	Standardized SCysC CKD-EPI Equation 2	$127.7 \times (-0.105 + 1.13 \times \text{standardized SCysC})^{-1.17} \times \text{age}^{-0.13} \times (0.91 \text{ if female}) \times (1.06 \text{ if black})$	[34, 35]
52.	CKD-EPI Equations Re-expressed for Standardized SCr and SCysC	Standardized SCr and SCysC CKD-EPI	$177.6 \times \text{standardized SCr}^{-0.65} \times (-0.105 + 1.13 \times \text{standardized SCysC})^{-0.57} \times \text{age}^{-0.20} \times (0.82 \text{ if female}) \times (1.11 \text{ if black})$	[34, 35]
53.	Modified Cystatin-C based CKD-EPI Equation for elderly	Modified CKD-EPI-CysC for elderly	Female SCysC≤ 0.8 $133 \times (\text{sCysC}/0.8)^{-0.499} \times 0.996^{\text{age}} \times 0.932$ Female SCysC ≥ 0.8 $134 \times (\text{sCysC}/0.8)^{-0.899} \times 0.996^{\text{age}} \times 0.874$ Male SCysC ≤ 0.8 $133 \times (\text{sCysC}/0.8)^{-0.499} \times 0.996^{\text{age}}$ Male SCysC ≥ 0.8 $120 \times (\text{sCysC}/0.8)^{-0.825} \times 0.996^{\text{age}}$	[36]
54.	Modified Creatinine and Cystatin-C based CKD-EPI Equation for elderly	Modified CKD-EPI-Cr and CysC for elderly	Females:SCr ≤ 0.7 If SCysC ≤ 0.8 $130 \times \frac{SCr^{-0.248}}{0.7} \times \frac{SCysC^{-0.375}}{0.8} \times 0.995^{age}$ (×1.08 if Black) If SCysC ≥ 0.8 $130 \times \frac{SCr^{-0.248}}{0.7} \times \frac{SCysC^{-0.711}}{0.8} \times 0.995^{age}$ (×1.08 if Black) SCr ≥ 0.7 If SCysC ≤ 0.8 $130 \times \frac{SCr^{-0.601}}{0.7} \times \frac{SCysC^{-0.375}}{0.8} \times 0.995^{age}$ (×1.08 if Black) If SCysC ≥ 0.8 $130 \times \frac{SCr^{-0.601}}{0.7} \times \frac{SCysC^{-0.711}}{0.8} \times 0.995^{age}$ (×1.08 if Black) Males: SCr ≤ 0.9 If SCysC ≤ 0.8 $135 \times \frac{SCr^{-0.207}}{0.9} \times \frac{SCysC^{-0.375}}{0.8} \times 0.995^{age}$ (×1.08 if Black) If SCysC ≥ 0.8 $135 \times \frac{SCr^{-0.207}}{0.9} \times \frac{SCysC^{-0.711}}{0.8} \times 0.995^{age}$ (×1.08 if Black) SCr ≥0.9 If SCysC ≤ 0.8 $135 \times \frac{SCr^{-0.601}}{0.9} \times \frac{SCysC^{-0.375}}{0.8} \times 0.995^{age}$ (×1.08 if Black)	[36]

			If SCysC ≥ 0.8 $135 \times \frac{SCr}{0.9}^{-0.601} \times \frac{SCysC}{0.8}^{-0.711} \times 0.995^{age}$(×1.08 if Black)	

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