

Table S1 Models of measured I_{Ca} that adjust T_{Ca} for specific anions or the anion gap (conventional units)

First author	Model	Population	Validation	Web support
Obi ^a (30)	$Ca_{Corrected} = 1.35 \times T_{Ca} - 0.65 \times Alb - 0.15 \times P + 0.3$	Hemodialysis	Geographic	
Ramirez-Sandoval (31)	$I_{Ca} = 0.44 \times T_{Ca} - 0.267 \times Alb - 0.055 \times P - 0.012 \times tCO_2 + 2.16$	Inpatients		Yes ^b
Sakaguchi (34)	$I_{Ca} = 0.084 \times T_{Ca} - 0.027 \times Alb - 0.006 \times Na + 0.006 \times Cl - 0.001 \times tCO_2 + 0.835$	CKD		
Sakaguchi (34)	$I_{Ca} = 0.072 \times T_{Ca} - 0.005 \times Na + 0.005 \times Cl + 0.005 \times tCO_2 + 0.665$	Hemodialysis		
Yap (24)	Probability that I_{Ca} is <1.10 mmol/L = $1/[1+\exp(3.098 \times T_{Ca} - 0.721 \times Alb - 0.174 \times Na + 0.294 \times Cl + 0.177 \times tCO_2 - 32.272)]$	Critical care	Internal	Yes ^c
Yap (24)	$I_{Ca} = 0.091 \times T_{Ca} - 0.034 \times Alb - 0.0042 \times Na + 0.0073 \times Cl + 0.0047 \times tCO_2 + 0.219$	Critical care	External (35)	Yes ^c

^a, the “corrected calcium” model presented in reference (30) is, in fact, a model of the z-scores of measured I_{Ca} values, which were mapped into the distribution of T_{Ca} . The units are mg/dL; ^b, smartphone app is available at: <https://play.google.com/store/apps/details?id=com.uioinc.truecalcium>; ^c, Web calculator and smartphone app are available at: https://qxmd.com/calculate/calculator_704/predicting-ionized-hypocalcemia-in-critical-care. I_{Ca} , ionized calcium (mmol/L); T_{Ca} , total calcium (mg/dL); P, phosphate (mg/dL); Alb, albumin (g/dL); tCO_2 , total CO_2 ; CKD, chronic kidney disease (not end-stage).