Abbreviations

A	Arm span
AB	Abdominal
ABW	Actual body weight
AC	Age categories in 5 years
AIC	Akaike's information criteria
BCM	Body cell mass
Bi	Biceps skinfolds(mm)
BIA	Bioelectrical impedance analysis
BIC	Bayesian's information criteria
BMI	Body mass index, Quetelet's index
BSA	Body surface area
Bwi	Initial body weight
BWp	Present body weight
C	Concentration of administration isotope
C+Hp	Chest + Hip circumference model
C+U	Chest + Umbilical level circumference model
C+W	Chest + Waist circumference model
C_1	Base line concentration of isotope in serum/urine/breath
C_2	Concentration of isotope in serum/urine/breath sample after equilibration
4C	Four compartment model
Ca	Calcium
CC	Calf circumference
CC	Combination vs. Combination
Cco	Combination covariates equation or formula
CCr	Creatinine clearance
Cl	Chloride
CS	Combination vs. Single covariate
CT scan	Computer tomography scan
CV	Coefficient of variance (%);
D	Body density
D+S+K	Demispan, sitting height and knee height equations
Day_i	Initial day
Day_p	Present day
DEXA	Dual energy X-ray absorptiometry
Diff	The difference between two measurements
DNM	Densitometry
ECF	Extracellular fluid

ECG	Electro-cardiograph
ECM	Extracellular mass
ED	Emergency department
F	Female
FBBL,	Left foot breadth at ball (measured by foot print method)
FFM	Fat free mass
FFMI,	Fat free mass index
FM	Fat mass
FMI,	Fat mass index
FOR	Forearm circumference (cm)
H,	Healthy volunteers
^{2}H	Deuterium
^{3}H	Tritium
HL	Hand length
Hp	Hip circumference(cm)
HT, Ht, H	Height
HWDI	Height weight difference index
I	Suprailiac skinfold (mm)
IQR	Inter-quartile range
IBW	Ideal body weight
K, KH	Knee height
^{40}K	Potassium-40
K_e	Exchangeable potassium
kg	Kilogram
LBW	Lean body weight
ln	Natural logarithm
ln (CIRC)	Natural logarithm of the sum of five circumferences in cm (upper-arm, upper abdomen, lower abdomen, thigh and calf);
ln (SKF)	The natural logarithm of the sum of the triceps and thigh skinfolds (mm)
LOA	95% limits of agreement
log SK_4	Logarithm of sum of four skinfold thickness(mm);
M	Male
MAC	Mid arm circumference
MAC	Mid arm circumference
MAR	Ratio of body mass to arm span(kg/cm)
MLR	Ratio of body mass to lower leg length(kg/cm)

mm	Millimeter		S	Sitting height
M_n	The nth replicate of the measurement where, n varies from 1 to K		S+K	Sitting height and knee height model
MRI	Magnetic resonance image		s^2	The subject variance
MSE	Root mean square error		SC	Subscapular skinfolds (mm)
MUAC	Mid upper arm circumference (cm)		Sco	Single covariate equation or formula
N	Nitrogen, number of subjects		S.D.	standard deviation
N.A.	Not available		SH	Sitting height
Na	Sodium		SK_4	The sum (in mm) of the skinfold measurement for the biceps, triceps, subscapular and Suprailiac skinfolds
NAA	Neutron activation analysis			
Na_e	Total exchangeable sodium		Sp	Specificity
^{18}O	Oxygen-18		Sqr	Square root
P	Phosphate, patients		SS	Single vs. Single
PEs	Partitioned residual sum of square		SST	Subscapular skinfold thickness
PFFM	Percentage fat free mass		T	Thigh skinfold (mm)
PFFMR	Percentage fat free mass to BMI ratio		TBW	Total body water
PFM	Percentage of body fat mass		TEM	Technical error of the measurement
PFM	Percentage of fat mass		%TEM	Percent technical error
PFM	Percent body fat mass (%)		TF	Triceps skinfold
PFMR	Percentage fat mass to BMI ratio		TOBEC	Total body electrical conductivity
PNI	Prognostic nutritional index		TSF	Triceps skin fold thickness
R	Resistance, coefficient of reliability		UL	Ulnar length
$R(N_{ae})$	The sum of the sodium and potassium content of a sample of whole blood, divided by its water content		UWW	Underwater weighing
			V	Volume of dose
			W	Waist circumference(cm)
RV	Residual lung volume in liters		WHO	World Health Organization
s	Sensitivity		WT	Predicted body weight

Publications based on studies described in this thesis

Chapter 2

Chittawatanarat K, Pruenglampoo S, Trakulhoon V, Ungpinitpong W, Patumanond J. Height prediction from anthropometric length parameters in Thai people. Asia Pac J Clin Nutr 2012;21:347-54.

Chittawatanarat K, Pruenglampoo S, Trakulhoon V, Ungpinitpong W, Patumanond J. Development of gender- and age group-specific equations for estimating body weight from anthropometric measurement in Thai adults. Int J Gen Med 2012;5:65-80.

Chapter 3

Chittawatanarat K, Pruenglampoo S, Trakulhoon V, Ungpinitpong W, Patumanond J. Height prediction from anthropometric length parameters in Thai people. Asia Pac J Clin Nutr 2012;21:347-54.

Chittawatanarat K, Pruenglampoo S, Trakulhoon V, Ungpinitpong W, Patumanond J. Development of gender- and age group-specific equations for estimating body weight from anthropometric measurement in Thai adults. Int J Gen Med 2012;5:65-80.

Chapter 4

Chittawatanarat K, Pruenglampoo S, Kongsawasdi S, Chuatrakoon B, Trakulhoon V, Ungpinitpong W, Patumanond J. The variations of body mass index and body fat in adult Thai people across the age spectrum measured by bioelectrical impedance analysis Clin Interv Aging 2011;6:285-94.

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