Barter's Regression Equations for Determining Body Segment Weights[1]

Segment	Regression Equation[2]	Standard Deviation[3]
Head, neck & trunk	0.470 x W +12.0	6.4
Upper extremity	0.065 x W -1.50	2.1
Upper arm	0.040 x W -1.45	1.0
Forearm & hand	0.030 x W -0.70	1.2
Forearm	0.020 x W -0.25	1.0
Hand	0.005 x W +0.35	0.4
Lower extremity	0.155 x W +1.35	4.9
Thigh	0.090 x W +1.60	3.6
Leg & foot	0.065 x W -0.25	2.0
Leg	0.055 x W -0.95	1.6
Foot	0.010 x W +0.75	0.6

[1] Barter, J.T. (1957) *Estimation of the Mass of Body Segments*. WADC Technical Report 57-260 (ASTIA 118222). Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

[2] Values have been divided by two for estimating weights of single segments in pounds. W is the total body weight in pounds.

[3] Standard deviations are in pounds based on original data for the combined left and right sides.