

The most accurate way to assess TBV is to use the Nadler's equation.

Patient	Total Blood Volume (mL)
Male	$(0.006012 \times H^3)/(14.6 \times W)+604$
Female	$(0.005835 \times H^3)/(15 \times W) +183$
H=height in inches W=weight in pounds	

But you can always try estimating as well.

Estimation of Total Blood Volumes is based on Gilcher's Rule of Five

Gilcher's Rule of Fives				
	Blood Volume (mL/kg of Body Weight)			
Patient	Obese	Thin	Normal	Muscular
Male	60	65	70	75
Female	55	60	65	70
Infant/Child	-	-	80/70	-

The reason for the difference is secondary to the difference in vascularity between adipose tissue and muscle tissue.

For very obese patients you can estimate the total blood volume by using the lean body weight plus 20%.

For Pediatric patients you can use

Pediatric Total Blood Volume	
Age Group	Approximate Blood Volume (mL/kg)
Premature infant at birth	90-105
Term newborn infant	80-90
Children (<3 months)	70-75
Adolescents	
Male	70
Female	65