

Title : Fluid Compartmentalization Studies in the Thai Population

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**Objective** To establish baseline values for total body water, extracellular and intracellular fluid, red cell mass, plasma volume and total blood volume in the Thai population. There are significant nutritional, genetic and enviromental differences in the Thai people compared to western people. The so-called normal values determined in western people cannot be transposed to the Thai people. Baseline values for each of these volumes has to be established before any future studies can be done in disease processes where alterations in fluid volumes may be involved in the pathophysiology.

**Description** The fluid compartments measured by isotope dilution technique are as follows:

Total Body Water	Tritium Space
Extracellular Fluid	S <sup>35</sup> Space
Intracellular Fluid	(TBW—ECF)
Red Cell Mass	Cr <sup>51</sup> tagged RBC
Plasma Volume	Radioiodinated Serum Albumen RISA
Total Blood Volume	(RBC mass + Plasma Volume)

**Progress** A total of 201 Thai people have been studied. This group includes 92 females and 109 males varying in age from 16 to 90 years.

The mean values plus one standard deviations for this group separated according to sex is as follows:

	Females		Males		Total group	
Total Body Water liters	24.269 ±	4.456	29.087 ±	4.024	26.882 ±	4.855
% B.W.	50.7 ±	6.5	55.2 ±	5.5	23.1 ±	6.4
Extracellular Fluid liters	07.205 ±	1.377	7.927 ±	1.587	7.597 ±	5.168
% B.W.	13.6 ±	2.6	15.6 ±	6.5	14.6 ±	5.2
Intracellular Fluid liters	17.790 ±	3.863	21.066 ±	3.585	19.566 ±	4.051
% B.W.	37.3 ±	6.1	39.9 ±	5.7	38.8 ±	6.0
Total Blood Volume ml	3071.4 ±	473.8	3813.0 ±	619.8	3473.5 ±	668.4
ml/Kg	64.9 ±	9.0	72.7 ±	8.6	69.1 ±	9.6
Plasma Volume ml	2079.5 ±	340.6	2405.5 ±	344.4	2256.2 ±	378.6
ml/Kg	43.9 ±	6.8	45.6 ±	6.3	44.9 ±	6.5
Red Cell Mass ml	1001.1 ±	190.9	1432.25 ±	251.6	1234.9 ±	311.7
ml/Kg	20.9 ±	2.9	27.103 ±	3.6	24.3 ±	4.5