Anemia Lab Values

Lab Value	Reference Range		Iron Deficiency		Anemia	
	Female	Male	Female	Male	Female	Male
Hemoglobin (Hb)	12-15 g/dL	14-17 g/dL			< 12 g/dL*	< 13 g/dL
Mean Corpuscular Volume (MCV)	80-100 femtoliters (fL)		< 80fL MCV > 80 fL can also been seen in patients with iron deficiency MCV < 80 fL may be seen in thalassemia			
Red Cell Distribution Width (RDW)	CV: 11.6 – 14.6 %; SD: 39-46 fl		>14 fl			
Reticulocyte Count	25,000 – 85,000/microliter 0.5-1.5 % (must be adjusted for degree of anemia)				RI < 2% with anemia indicates RBC loss with inadequate response to correct anemia RI > 3% with anemia indicates RBC loss with an increased compensatory production of reticulocytes to replace the lost red blood cells	
Reticulocyte Hemoglobin Content (CHr)	27 -32 picograms (pg)		CHr < 29 pg			
Soluble transferrin receptor (sTfR), serum	1.8 – 4.6 mg/L		>5.0 mg/L			
Ferritin (serum)	45-340 ng/dL		< 100 ng/dL			
Transferrin saturation	20-45%		<20%			
C –Reactive Protein (CRP), (serum)	≤ 0.8 mg/L				> 0.8 mg/L = inflammatory state	

*WHO defines anemia in women as Hb < 12 g/dL but there are many women who are iron deficient, have a Hb > 12 g/dL and whose Hb increases by 1 g/dL or more when treated with iron

References

Greer G, Foerster J, Rodgers G eds. Wintrobe's Clinical Hematology. 12th edition. Wolters Kluwer. Philadelphia, Pa; 2009.

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