



Saint Luke's Regional Laboratories Clinical Laboratory Letter



June 2009

Pediatric CBC and Differential Reference Ranges

Saint Luke's Regional Laboratories (SLRL) performs an automated complete blood count (CBC) and white cell differential (CBC/DIFF) on Sysmex hematology analyzers. This is the same analyzer used by Children's Mercy Hospital (CMH) for performance of the CBC and CBC/DIFF on their pediatric population. SLRL has adopted CMH's reference ranges for interpretation of CBC and CBC/DIFF values in pediatric patients.

Sysmex Age-Based Reference Ranges

Analyte		Age		Normal Range	Units	
		Low	High			
WBC		0D	1D	9.00 - 30.00	10 ³ /uL	
		2D	3D	9.40 - 38.00		
		4D	14D	5.00 - 21.00		
		15D	1M	5.50 - 19.50		
		2M	3M	5.50 - 17.50		
		4M	2Y	6.00 - 17.50		
		3Y	6Y	5.50 - 15.50		
		7Y	12Y	4.50 - 14.50		
			13Y	Adult	4.00 - 11.00	
RBC		0D	3D	4.00 - 6.00	10 ⁶ /uL	
		4D	14D	3.60 - 6.60		
		15D	1M	3.00 - 6.20		
		2M	3M	2.70 - 5.40		
		4M	6M	3.10 - 4.50		
		7M	2Y	3.70 - 5.30		
		3Y	6Y	3.90 - 5.30		
		7Y	10Y	4.00 - 5.20		
		Female	11Y	16Y	4.10 - 5.10	
		Female	17Y	Adult	4.00 - 5.00	
		Male	11Y	16Y	4.50 - 5.30	
		Male	17Y	Adult	4.31 - 5.84	
	HGB		0D	3D	14.5 - 22.5	g/dL
		4D	14D	12.5 - 22.5		
		15D	1M	10.0 - 20.5		
		2M	3M	9.0 - 18.0		
		4M	6M	9.5 - 13.5		
		7M	2Y	10.5 - 13.5		
		3Y	6Y	11.5 - 13.5		
		7Y	10Y	11.5 - 13.5		
		Female	11Y	16Y	12.0 - 16.0	
		Female	17Y	Adult	12.0 - 15.0	
		Male	11Y	16Y	13.0 - 16.0	
		Male	17Y	Adult	13.0 - 17.0	

HCT		0D	3D	45 - 67	%	
		4D	14D	39 - 67		
		15D	1M	31 - 67		
		2M	3M	28 - 55		
		4M	6M	29 - 41		
		7M	2Y	33 - 39		
		3Y	6Y	34 - 40		
		7Y	10Y	35 - 46		
		Female	11Y	16Y	36 - 46	
		Female	17Y	Adult	36 - 45	
		Male	11Y	16Y	37 - 49	
		Male	17Y	Adult	40 - 50	
	MCV		0D	3D	95 - 121	fL
		4D	1M	86 - 124		
		2M	3M	77 - 123		
		4M	6M	74 - 108		
		7M	2Y	70 - 86		
		3Y	6Y	75 - 87		
		7Y	10Y	77 - 95		
		Female	11Y	16Y	78 - 102	
		Female	17Y	Adult	80 - 99	
		Male	11Y	16Y	78 - 98	
		Male	17Y	Adult	80 - 99	
MCH			0D	3D	31 - 37	pg
			4D	1M	28 - 40	
		2M	3M	26 - 40		
		4M	6M	25 - 35		
		7M	2Y	23 - 30		
		3Y	6Y	24 - 30		
		7Y	10Y	25 - 33		
		11Y	16Y	25 - 35		
		17Y	Adult	27 - 34		

Age-specific reference ranges are currently not reported with the CBC/DIFF. However, they will be reported when SLRL goes live with its new laboratory information system in fall 2009.

Reflex Testing

Federal regulations require that laboratories inform physicians of their reflex test policy. Reflex testing refers to those situations where an initial test result is abnormal and the laboratory automatically performs follow-up testing when medically appropriate. Saint Luke's Regional Laboratories' (SLRL) clients should familiarize themselves with these tests by utilizing the SLRL Services Directory and make note of tests that prompt reflexive testing. In addition, some testing is sent out to reference laboratories that also perform medically appropriate reflex testing. If additional help is needed, please contact Client Services at 816-932-385 Saint Luke's Regional Directory of Lab Services is now on-line at:

<http://www.testcatalog.org/nrr/catalogs/saintlukes/catalog/Search.aspx>

It can also be found on the Saint Luke's Web site at:

http://www.saintlukeshealthsystem.org/slrs/Services/Common/Saint_Lukes_Regional_Lab/Overview.htm